

(NASA-SP-7043(02)) ENERGY: A CONTINUING BIBLIOGRAPHY WITH INDEXES. SUPPLEMENT 2 (NASA) CSCL 10B

N75-16073

Unclas

ENERGY

A CONTINUING BIBLIOGRAPHY WITH INDEXES

NOVEMBER 1974)

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD VA. 22161

MATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ACCESSION NUMBER RANGES

Accession numbers cited in this Supplement fall within the following ranges:

IAA (A-10000 Series)

A74-19206-A74-28535

STAR (N-10000 Series)

N74-15700-N74-21629

Previous publications announced in this series/subject category include:

Energy: A Special Bibliography NASA SP-7042 (Coverage: Jan. 1, 1968 through Dec. 31, 1973)

Energy: A Continuing Bibliography NASA SP-7043(01) (Coverage: Jan. 1, 1974 through Mar. 31, 1974)

This bibliography was prepared by the NASA Scientific and Technical Information Facility operated for the National Aeronautics and Space Administration by Informatics Information Systems Company, Inc.

The Administrator of the National Aeronautics and Space Administration has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Agency. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through July 1, 1974.

| | | • | |
|--|---------------------------------------|-------------------------------|---|
| 1. Report No. NASA-SP=7043 (02) | 2. Government Acce | ssion No. | 3. Recipient's Catalog No. |
| 4. Title and Subtitle | | | 5. Report Date |
| ENERGY | • | | November 1974 |
| A Continuing Bibliograph | v (Supplement | 02) | 6. Performing Organization Code |
| | | | |
| 7. Author(s) | · | | 8. Performing Organization Report No. |
| | | | |
| | | | 10. Work Unit No. |
| 9. Performing Organization Name and Address | | • | |
| National Aeronautics and | Space Admini | stration | |
| Washington, D. C. 20546 | | | 11. Contract or Grant No. |
| | | | |
| 10.00 | | | 13. Type of Report and Period Covered |
| 12. Sponsoring Agency Name and Address | | | |
| | | | 14. Sponsoring Agency Code |
| | | | ,,, |
| 15. Supplementary Notes | · · · · · · · · · · · · · · · · · · · | | <u> </u> |
| - was manufactured to take the same of the | • | • | • |
| | | | , |
| | • | | |
| 16. Abstract | - 1 | | |
| • | | | |
| • | | • | |
| | system from . | and technica April 1, 1974 | |
| | - 5-, -5, -4 | | |
| | • | , | |
| · | | | |
| | | | |
| | · | | |
| • | | | |
| | | | |
| • | | | |
| | | | |
| | | | |
| | | | |
| | | • | |
| | | | |
| 17. Key Words (Suggested by Author(s)) | · · · · · · · · · · · · · · · · · · · | Teo Birth at Birth | |
| | Wind Energy | 18. Distribution States | nent |
| Energy Conversion | =110197 |) lle | nclassified - Unlimited |
| Energy Policy | | 1 | icrassified - Offiffinited |
| Solar Energy | | } | |
| Solai Ellel gy | | - | |
| 19. Security Classif, (of this report) | 20. Security Classif, I | (of this page) | 21. No. of Pages |
| Unclassified | Unclas | | 154 |
| Officialization | VIII 0 1 0 3 1 | 3.1100 | ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ |

for

ENERGY - A Continuing Bibliography (Suppl. 01) NASA SP-7043 (01) May 1974

Please substitute these abstracts on page 24 of NASA SP-7043 (01) as indicated.

N74-13759 Polytechnic Inst. of Brooklyn, N.Y. THE SYNCHRONOUS EFD DEVICE Ph.D. Thesis Frank Richard Honigsbaum 1973 110 p

Avail: Univ. Microfilms Order No. 73-24769

A survey of the literature reveals that the major objection to the use of electrofluiddynamic devices for direct energy conversion has been that of low output per stage. This objection does not apply to the synchronous EFD device, because it permits simple and effective multistaging. Since the synchronous EFD Device is a recent development, efforts directed toward: (1) describing the basic concept; (2) validating it experimentally; (3) assaying its potential: and (4) deriving a simple circuit model. Dissert. Abstr. All of these objectives were met.

(This abstract replaces N74-12759 on page 24)

N74-13766# Energy Research Corp., Bethal, Conn. HYDROGEN GENERATOR Final Technical Report Edward S. Tillman, Jr. Aug. 1973 66 p refs (Contract DAAK02-71-C-0397; DA Proj. 1G8-63702-DG-10) (AD-767402; ERC-0397F) Avail: NTIS CSCL 10/2

A compact hydrogen generator for small liquid hydrocarbon fueled fuel cells was designed, built and partially tested. The basic generator embodies the steam reforming of liquid fuels available to the military. Provisions have been made for sulfur removal and hydrogen purification can be achieved with a palladium-silver hydrogen separator. Extensive testing on the reforming unit was conducted and results reported. An electronic control system for startup and steady state operation was designed and built but was not fully integrated with the reformer. Emphasis throughout the study was placed on miniaturizing Author (GRA) components.

(This abstract replaces N74-12766 on page 24)

The index entries refer to the substitute abstracts (N74-13759 and N74-13766) instead of the originally printed abstracts (N74-12759 and N74-12766). Thus, no change in the indexes will be necessary.

ENERGY

A Continuing Bibliography With Indexes Supplement 0.2

A selection of annotated references to unclassified reports and journal articles that were introduced into the NASA scientific and technical information system and announced from April 1 through June 30, 1974 in:

- Scientific and Technical Aerospace Reports (STAR)
- International Aerospace Abstracts (IAA).



This Supplement is available from the National Technical Information Service (NTIS), Springfield, Virginia 22151, for Copies mailed to addresses outside the United States, add py for handling and postage.

INTRODUCTION

This supplement to Energy: A Continuing Bibliography with Indexes (NASA SP-7043) lists 405 reports, journal articles, and other documents announced between April 1, 1974 and June 30, 1974 in Scientific and Technical Aerospace Reports (STAR), or in International Aerospace Abstracts (IAA). The first issue of this continuing bibliography was published in May 1974 and supplements are issued quarterly.

The coverage includes regional, national and international energy systems; research and development on fuels and other sources of energy; energy conversion, transport, transmission, distribution and storage, with special emphasis on use of hydrogen and of solar energy. Also included are methods of locating or using new energy resources. Of special interest is energy for heating, lighting, for powering aircraft, surface vehicles, or other machinery.

Each entry in the bibliography consists of a standard bibliographic citation accompanied in most cases by an abstract. The listing of the entries is arranged in two major sections, IAA Entries and STAR Entries in that order. The citation, and abstracts when available, are reproduced exactly as they appeared originally in IAA or STAR including the original accession numbers from the respective announcement journals. This procedure, which saves time and money accounts for the slight variation in citation appearances.

Five indexes-subject, personal author, corporate source, contract number, and report number are included. The indexes are of the cumulating type throughout the year, with the fourth quarterly publication containing abstracts for the fourth quarter and index references for the four quarterly publications.

AVAILABILITY OF CITED PUBLICATIONS

IAA ENTRIES (A74-10000 Series)

All publications abstracted in this Section are available from the Technical Information Service, American Institute of Aeronautics and Astronautics, Inc. (AIAA), as follows: Paper copies are available at \$5.00 per document up to a maximum of 20 pages. The charge for each additional page is 25 cents. Microfiche (11) are available at the rate of \$1.50 per microfiche for documents identified by the # symbol following the accession number. A number of publications, because of their special characteristics, are available only for reference in the AIAA Technical Information Service Library. Minimum airmail postage to foreign countries is \$1.00. Please refer to the accession number, e.g., A74-11072, when requesting publications.

STAR ENTRIES (N74-10000 Series)

A source from which a publication abstracted in this Section is available to the public is ordinarily given on the last line of the citation, e.g., Avail: NTIS. The following are the most commonly indicated sources (full addresses of these organizations are listed at the end of this introduction):

Avail: NTIS. Sold by the National Technical Information Service at the price shown in the citation. If no price is shown in a current STAR citation, it may be ascertained by referring to Government Reports Announcements or to NTIS. Beginning with documents announced in Issue 21, 1973, "stocked" reports, such as printed NASA reports are priced on a step schedule ranging irreg-`√ from \$2.75 for a 1-to-25 page report to \$11.00 for 576 to 600 pages 3.00 for each additional 100-page increment. Demand print reports (the facsimile reproduction will be made to fill orders) are priced at \$4 . 20 pages plus 25 cents for each five pages or portions thereof. T' a not applied retroactively; i.e., reports previously announced at a continue to be sold at that price. If "Avail: NTIS" without a pr' in the citation of a NASA report (asterisked) it is sold at \$3.00 Led copy or facsimile is supplied. Because of price changes and arges, it is recommended that for any document announced in ST 1970, NTIS be queried as to the price. Document prices are subivithout notice. See "Avail: SOD" below for documents available fro perintendent of Documents and NTIS. Microfiche, Microfi .e from NTIS at a standard price of \$2.25 (regardless of an ocuments identified by the # sign following the accession num (0036#) and having an NTIS availability shown in the citation. Stars if microfiche of (1) the full collection of NTIS-available documents annu , STAR with the # symbol, (2) NASA reports only (identified by an asterisk i). (3) NASA-accessioned non-NASA reports only (for those who wish to maintain an integrated microfiche file of aerospace documents by the "N" accession number), or (4) any of these classes within one or more STAR categories, also may be placed with NTIS at greatly reduced prices per title (e.g., 45 cents) over individual requests. Inquiries concerning NTIS Selective Research

⁽¹⁾ A microfiche is a transparent sheet of film, 105×148 mm in size, containing as many as 60 to 98 pages of information reduced to micro images (not to exceed 26:1 reduction).

in Microfiche should be addressed to the Subscription Unit, National Technical Information Service:

Deposit Accounts and Customers Outside U.S. NTIS encourages its customers to open deposit accounts to facilitate the purchase of its documents now that prices vary so greatly.

NTIS customers outside the United States are reminded that they should add the following handling and postage charges to the standard or announced prices: hard (paper) copy, \$2.50 each document; microfiche, \$1.50 each document. For subscribers outside the United States who receive microfiche through the Selective Research in Microfiche program, NTIS will add 15 cents for each title shipped.

- Avail: SOD (or GPO). Sold by the Superintendent of Documents, U.S. Government Printing Office, in hard copy. The price is given following the availability line. (An order received by NTIS for one of these documents will be filled at the SOD price if hard copy is requested. NTIS will also fill microfiche requests, at the standard \$2.25 price, for those documents identified by a #symbol.)
- Avail: NASA Public Document Rooms. Documents so indicated may be examined at or purchased from the National Aeronautics and Space Administration, Public Documents Room (Room 126), 600 Independence Ave., S.W., Washington, D.C. 20546, or public document rooms located at each of the NASA research centers, the Mississippi Test Facility, and the NASA Pasadena Office at the Jet Propulsion Laboratory.
- Avail: NASA Scientific and Technical Information Office Documents with this availability are usually news releases or informational brochures available without charge in paper copy.
- Avail: AEC Depository Libraries. Organizations in U.S. cities and abroad that maintain collections of U.S. Atomic Energy Commission reports, usually in microfiche form, are listed in Nuclear Science Abstracts. Services available from the USAEC and its depositories are described in a booklet. Science Information Available from the Atomic Energy Commission (TID-4550), which may be obtained without charge from the USAEC Technical Information Center.
- Avail: Univ. Microfilms. Documents so indicated are dissertations selected from *Dissertation Abstracts*, and are sold by University Microfilms as xerographic copy (HC) at \$10.00 each and microfilm at \$4.00 each, regardless of the length of the manuscript. Handling and shipping charges are additional. All requests should cite the author and the Order Number as they appear in the citation.
- Avail: HMSO. Publications of Her Majesty's Stationery Office are sold in the U.S. by Pendragon House, (nc., (PHI), Redwood City, California. The U.S. price (including a service charge) is given, or a conversion table may be obtained from PHI.
- Avail: BLL (formerly NLL): British Library Lending Division, Boston Spa, Wetherby, Yorkshire, England. Photocopies available from this organization at the price shown (If none is given, inquiry should be addressed to BLL).
- Avail: ZLDI. Sold by the Zentralstelle für Luftfahrtdokumentation und -Information, Munich, Federal Republic of Germany, at the price shown in deutschmarks (DM).
- Avail: Issuing Activity, or Corporate Author, or no indication of availability: Inquiries as to the availability of these documents should be addressed to the organization shown in the citation as the corporate author of the document.
- Avail: U.S. Patent Office. Sold by Commissioner of Patents, U.S. Patent Office, at the standard price of \$.50 each, postage free.
- Other availabilities: If the publication is available from a source other than the above, the publisher and his address will be displayed entirely on the availability line or in combination with the corporate author line.

GENERAL AVAILABILITY

All publications abstracted in this bibliography are available to the public through the sources as indicated in the *STAR Entries* and *IAA Entries* sections. It is suggested that the bibliography user contact his own library or other local libraries prior to ordering any publication inasmuch as many of the documents have been widely distributed by the issuing agencies, especially NASA. A listing of public collections of NASA documents is included on the inside back cover.

SUBSCRIPTION AVAILABILITY

This publication is available on subscription from the National Technical Information Service (NTIS). The annual subscription rate for the monthly supplement is \$15.00. All questions relating to subscriptions should be referred to the NTIS.

ADDRESSES OF ORGANIZATIONS

American Institute of Aeronautics and Astronautics
Technical Information Service
750 Third Ave.
New York, N.Y. 10017

British Library Lending Division. Boston Spa, Wetherby, Yorkshire, England

Commissioner of Patents U.S. Patent Office Washington, D.C. 20231

Engineering Sciences Data Unit Ltd. 251–259 Regent Street London W1R 7AD, England

ESRO/ELDO Space Documentation Service European Space Research Organization 114, av. Charles de Gaulle 92-Neuilly-sur-Seine, France

Her Majesty's Stationery Office P.O. 8ox 569, S.E. 1 London, England

NASA Scientific and Technical Information Facility P.O. Box 33 College Park, Maryland 20740

National Aeronautics and Space
Administration
Scientific and Technical Information
Office (KSI)
Washington, D.C. 20546

National Technical Information Service Springfield, Virginia 22151

Pendragon House, Inc. 899 Broadway Avenue Redwood City, California 94063

Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402

University Microfilms, Inc. A Xerox Company 300 North Zeeb Road Ann Arbor, Michigan 48106

University Microfilms, Inc. Tylers Green London, England

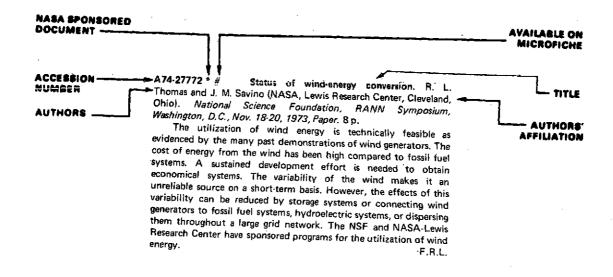
U.S. Atomic Energy Commission Technical Information Center P.O. Box 62 Oak Ridge, Tennessee 37830

Zentralstelle für Luftfahrtdokumentation und-Information 8 München 86 Postfach 880 Federal Republic of Germany

TABLE OF CONTENTS

| | Page |
|--|-------------------------|
| IAA Entries | |
| STAR Entries | 33 |
| | 45 |
| SUBJECT INDEX | |
| PERSONAL AUTHOR INDEX | · · · · · |
| CONTRACT NUMBER INDEX | · · · · · |
| CONTRACT NUMBER INDEX | · · · · |
| REPORT/ACCESSION NUMBER INDEX | · · · · D-1 |
| The state of the s | · · · · · |
| | |
| TYPICAL CITATION AND ABSTRACT FROM S | TAR |
| NASA SPONSORED | |
| DOCUMENT | AVAILABLE ON MICROFICHE |
| ACCEBBION NUMBER N74-16493*# General Electric Co., Cincinnati, Ohio. Flight | |
| | CORPORATE |
| TITLE HYDROGEN METHANE FUEL CONTROL SYSTEMS FOR TURBOJET ENGINES Final Report | |
| J. S. Goldsmith and G. W. Bennett Oct. 1973 162 p refs | |
| (NASA-CR-121247; R74AEG153; TM-73-489) Avail: NTIS- | 1 |
| Design, development and test of a fuel conditioning | PUBLICATION |
| control system utilizing liquid methane (natural gas) and liquid hydrogen fuels for operation of a J85 jet engine were performed. | DATE |
| of an engine fuel control employing liquid pumping of an engine fuel control employing liquid pumping of an engine | AVAILABILITY BOUNCE |
| CONTRACT fuels, gasification of the fuels at supercritical pressure, and gaseous metering and control. Acceptably stable and responsive control | 30000 |
| or the engine was personalizated throughout the one level | COSATI |
| range for liquid gas fuel and up to 88 percent engine speed using liquid hydrogen fuel. Author | CODE |
| The street of th | |

TYPICAL CITATION AND ABSTRACT FROM IAA



A Listing of Energy Bibliographies Contained In This Publication:

1. A Bibliography of Non-Technical Literature on Energy N74-16641 p0051

 $d \sim$

2. A Bibliography of Congressional Publications on Energy from the 89th Congress to 1 July 1971

N74-16642 p0051

3. Bearings for Power Station Plant. A Selective Bibliography, 1960 - September 1973

N74-19113 p0073

4. Air Pollution Aspects of Emission Sources: Petroleum Refineries; A Bibliography with Abstracts

N74-19228 p0073

5. Energy Sources - Citations from the Early DDC Collections N74-20705 p0081



ENERGY

A Continuing Bibliography (Suppl. 02) NOVEMBER 1974

IAA ENTRIES

A74-19353 # Hydrogen - Make-sense fuel for an American supersonic transport. W. J. D. Escher (Escher Technology Associates, St. Johns, Mich.) and G. D. Brewer (Lockheed-California Co., Burbank, Calif.). American Institute of Aeronautics and Astronautics, Aerospace Sciences Meeting, 12th, Washington, D.C., Jan. 30-Feb. 1, 1974, Paper 74-163. 11 p. 21 refs. Members, \$1.50; nonmembers, \$2.00.

Arguments in favor of the use of liquid-hydrogen fuel for power supersonic transport aircraft are presented, with a view toward the 'better and faster' SST the U.S. will eventually build. It is seen that, in addition to the economic and operational advantages, the use of hydrogen will establish a sound basis for evolving out of the present self-limited petroleum era into tomorrow's hydrogen economy. V.P.

A74-19454 # Relexation phenomena in an MHD generator with pre-ionizer. J. H. Blom. Eindhoven, Technische Hogeschool, Doctor in de Technische Wetenschappen Dissertation, 1973, 146 p. 50 refe

A theoretical and experimental study was made of relaxation processes in MHD generators. From the calculations of the relaxation process in a two-dimensional geometry the configuration of preionizers with respect to the maximum efficiency has been derived. The time-dependent behavior of discharges in preionizers and in a periodic generator segment have been studied using two-dimensional time-dependent calculations. A model for the calculation of the power output and efficiency of MHD generators has been developed. To study the relaxation processes in an MHD generator with an enthalpy input of 5 MW a shock tunnel was built which delivered a plasma with the desired parameters. The experimental results are explained by means of a theoretical analysis. The increase in the electron density due to preionization was in agreement with a quasi-one-dimensional theory. The experimental efficiencies for preionization ranged from 10 to 30%. Current distributions determined from measurements with electrostatic probes and high-speed photography showed a qualitative agreement with the theoretical

A74-19455 # Loss mechanisms in an MHD generator. J. W. M. A. Houben. Eindhoven, Technische Hogeschool, Doctor in de Technische Wetenschappen Dissertation, 1973. 164 p. 73 refs.

This doctoral thesis deals with loss mechanisms which reduce the efficiency and power output of nonequilibrium Faraday-type MHD generators. Particular attention is given to losses in the boundary region. The interaction of the losses is studied on the basis of an equivalent resistance model (whose development is described). Here, the losses are represented by resistances which are loads for the bulk of the MHD generator. Equations governing the processes responsible for the losses are derived and are used to calculate numerically the influence of the electrode configuration on generator performance. It is shown that rod electrodes placed in the flow performed with cesium-seeded argon plasma are described, showing that voltage drops are by far the most dominant loss mechanism. The origin of the voltage drops is studied.

A74-19473 # The use of the pressurized balloon for detecting energy resources (L'impiego del pallone pressurizzato der il rilevamento delle risorse di energia). A Castellani (CNR, Rome, Italy) and S. Vetrella (Centro Applicazioni Tecnologie Aerospaziali, Naples, Italy). Istituto Internazionale delle Comunicazioni, Convegno Internazionale delle Comunicazioni, 21st, Genoa, Italy, Oct. 8-13, 1973, Paper, 20 p. In Italian.

Discussion of the use of pressurized plastic belloons for the detection of energy resources. The balloon system to be employed is compared to aircraft, sounding rocket, and satellite systems. The remote sensors which could be used with a balloon system for earth resources surveys are described. The physics of pressurized balloons are analyzed to determine their performances. (Author)

A74-19479 # Energy problems in air transportation. G. E. Lundquist (FAA, Washington, D.C.), Istituto Internazionale delle Comunicazioni, Convegno Internazionale delle Comunicazioni, 21st, Genoa, Italy, Oct. 8-13, 1973, Paper. 25 p. 9 refs.

Energy development and usage are worldwide problems. The prospects of energy supply and demand over the long term indicate a critical impact on air transportation. Unless energy is conserved through various alternative actions, air transportation will suffer. This paper analyzes options for reducing demand, for improving efficiency, and for diversifying, both through alternative fuels and transportation modes, for the near term (one to 15 years) and the 15-year plus time frame. These options offer a 30 to 50% reduction in projected fuel requirements.

A74-19481 # Airports evolution and qualification (Evolutione a qualificazione degli aeroporti). G. Pezzani. Istituto Internazionale delle Comunicazioni, Convegno Internazionale delle Comunicazioni, 21st, Genoa, Italy, Oct. 8-13, 1973, Paper. 27 p. 14

The years 1950s and 1960s which mark the beginning of the air transportation industry, were decisive for airport structure through the realization of suitable flight and operational infrastructure capable of assuming practicability and receptivity. The 1970s with jumbo jets have new problems of dimensions and qualification for large airports together with problems of accessibility and ecology. Thus it is necessary to consider if the way followed until now, which leads to the superairport, does not have to be reexamined for a different solution to the problem of qualified airport systems. In the 1980s and thereafter, in addition to the use of atomic energy in air transportation, a new and unforeseeable leap will be made with mercantile aircraft. (Author)

A74-19485 # Prospects of energy conversion and storage derived from space systems technology. P. L. Bargellini (COMSAT Laboratories, Clarksburg, Md.), Istituto Internazionale delle Comunicazioni, Convegno Internazionale delle Comunicazioni, 21st, Genoa, Italy, Oct. 8-13, 1973, Paper. 36 p. 11 refs.

A review of the state of the art in the energy conversion field indicates that the photovoltaic converter is now the most common and efficient type of energy converter. It is anticipated that recent improvements in silicon solar cells will benefit the development of terrestrial solar power plant technology. Solar power plants in space are also considered as a possibility in the future.

V.Z.

A74-19486 # The implications for air transportation of energy shortage. L. A. Mountford and R. E. Williams (Shell International Petroleum Co., Ltd., London, England). Istituto Internazionale delle Comunicazioni, Convegno Internazionale delle Comunicazioni, 21st, Genoa, Italy, Oct. 8-13, 1973, Paper. 25 p.

After referring to the enormous increase in air transport during the last twenty years, encouraged by the considerable availability of low cost fuel, the authors discuss the problems and difficulties which may in the near future affect the aviation market's oil supplies. The more demanding quality requirements and the ever growing needs of light distillates by all the other markets are taken into consideration.

Attention is given, moreover, to the possibilities open to the oil companies, aircraft manufacturers, and airline operators in order to moderate and alleviate this critical situation.

(Author)

A74-19559 Characteristics and applications of the solar furnaces of the Central Laboratory of Armament (Caractéristiques et objectifs des fours solaires du Laboratoire Central de l'Armement). R.-M. Meunier (Délégation Ministérielle pour l'Armement, Laboratoire Central, Arcueil, Val-de-Marne, France). Revue Internationale des Hautes Températures et des Réfractaires, vol. 10, Oct.-Dec. 1973, p. 297-302. 5 refs. In French.

Two solar furnaces are described that have been designed and built for the purposes of testing materials for resistance against thermal shocks characterized by steep and sudden rises in surface temperature, and for studying the phenomena associated with such thermal shocks. The tests are applied, particularly, to materials liable by the nature of their service (e.g., protective shielding against the thermal effects of nuclear explosions, certain spacecraft or aircraft components) to be subjected to thermal shocks. The design and performance characteristics of these solar furnaces are reviewed, and they are shown to make possible the application of thermal shocks over wide ranges of several parameter values.

M.V.E.

A74-19690 Helicopter applications at sea (Les applications maritimes de l'hélicoptère). A. Renaud. (Association Technique Maritime et Aéronautique, Session, 73rd, Paris, France, May 14-18, 1973.) Association Technique Maritime et Aéronautique, Bulletin, no. 73, 1973, p. 621-632; Discussion, p. 633-638. In French.

Current and future applications of the helicopter at sea are reviewed for both military and commercial service tasks. Discussed missions include rescue, antisubmarine warfare, mine sweeping, the deposition of pilots on merchant ships at sea or of personnel and supplies on oil-drilling ocean platforms. Some of the navigation and safety problems involved are examined.

M.V.E.

A74-19724 Gas-heated 'heat pipe' vacuum furnace (Gasbe-heizter 'Wärmeröhren' Vakuumofen). M. Stadelmann (Fotos Hutchins Photography, Inc., Belmont, Mass.). Schweizerische Technische Zeitschrift, vol. 71, Jan. 17, 1974, p. 40-43. 5 refs. In German

The heat pipe is a very efficient device for the transportation of heat at high temperatures on a thermoionic basis. One of the applications of the heat pipe is connected with the development of a vacuum furnace which utilizes natural gas for heating. In the new device the heat pipe is used for the transfer of heat from a high-temperature burner to a vacuum chamber. The vacuum furnace provides temperatures up to 1037.5 C at a vacuum of 5 microtorr,

G.R.

A74-19726 The fuel crisis and the controller. J. E. McNamara (Air Transport Association of America, Washington, D.C.). Journal of Air Traffic Control, vol. 16, Jan. Feb. 1974, p. 5-9.

The effectiveness of the use of optimum flight profiles as a means of reducing the fuel crisis is studied on the basis of selected performance data for the B-727-200 series aircraft. It is shown that the success of airline fuel conservation programs will depend on the controller and the facility planner. A discussion of a method of measuring fuel savings shows that a descent profile must be applied to existing procedures to determine where these savings can be realized.

V.P.

A74-20067 # Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy (Vliianie sukhogo treniia na otklik reguliarnogo preobrazovatelia energii v mekhanicheskuiu, otrabatyvaiushchego simmetrichnyi garmonicheskii signal). V. N. Prokof'ev, l. lu. E. Zakharov (Moskovskoe Vysshee Tekhnicheskoe Uchilishche, Moscow, USSR), and E. A. Musatov. Mashinostroenie, no. 12, 1973, p. 60-68. 10 refs. In Russian.

A74-20166 # The airship can meet the energy challenge. J. G. Vaeth (NOAA, National Environmental Satellite Service, Washington, D.C.). Astronautics and Aeronautics, vol. 12, Feb. 1974, p. 25-27.

It is suggested that lighter-than-air craft, in the form of very large airships, can be developed using nuclear propulsion. Such an airship can be designed to move cargo pieces weighing a million pounds and more into difficult-to-reach places at energy expenditures matching available resources. Inherent environmental cleanliness and quiet would be important fringe benefits.

F.R.L.

A74-20213 Clean, bright, and dry. J. C. Bradley (Gulf Research and Development Co., Pittsburgh, Pa.). In: Manual on requirements, handling, and quality control of gas turbine fuel. Philadelphia, Pa., American Society for Testing and Materials, 1973, p. 57-72.

It is the purpose of this paper to pinpoint some of the sources and types of fuel contamination and to outline precautions and procedures currently in use by the industry to preclude the possibility of contaminated fuel from reaching the turbine. In this connection, practices used in the aviation sector of the industry will be explored in detail since millions of gallons of jet fuel daily are being supplied to aviation turbines clean, bright, and dry with utmost reliability of product quality. Similar procedures applied to ground and marine units can assure dependable and economical operation.

(Author)

A74-20216 Purification of fuel oils by centrifugal force. F. H. Hilts (De Laval Separator Co., Poughkeepsie, N.Y.). In: Manual on requirements, handling, and quality control of gas turbine fuel. Philadelphia, Pa., American Society for Testing and Materials, 1973, p. 121-132. 5 refs.

Discussion of the means and merits of centrifugal purification of fuel oils, i.e., for the removal of water, solids, and other contaminants heavier than fuel oil. The optimal centrifuge types are defined depending on the oil to be purified, and the purifying performance is discussed in terms of processing cost efficiency.

M.V.E.

A74-20627 Power sources 4: Research and development in non-mechanical electrical power sources; Proceedings of the Eighth International Symposium, Brighton, Sussex, England, September 24-26, 1972. Symposium sponsored by the Joint Services Electrical Power Sources Committee of England. Edited by D. H. Collins. Newcastle-upon-Tyne, England, Oriel Press, Ltd., 1973. 606 p. \$24.60.

Topics discussed include a lithium/sulfur battery, a reversible negative electrode for alkaline storage batteries based on hydrides of the Ti-Ni system, high-discharge-rate long-life nickel/zinc cells, a bipolar NiO(OH)-K3BO3-Zn accumulator with a zinc ion repelling separator, separators for silver/zinc alkaline cells, the effect of KOH on sintered silver electrodes, a silver oxide/zinc battery, sintered-plate nickel hydroxide electrodes, a hot-pressing technique for fabricating cadmium and nickel electrodes, a laser interferometric method of measuring the current distribution at nickel and cadmium electrodes, the thermal behavior of sealed nickel/cadmium batteries, the nickel/cadmium cells used on the OAO spacecraft, a two-layer oxygen electrode with a hydrophilic porous nickel layer and a hydrophobic carbon layer, the electrochemical behavior of mixed

oxides in aqueous media, the use of charge-transfer complexes as electrodes in rechargeable batteries, and a rechargeable lithium nonaqueous battery which utilizes lamellar transition metal dichalcogenides as 'host' structures for cathodic nonmetals.

Individual items are announced in this issue.

ARK.

A74-20628 A high rate primary lithium-sulphur battary.
B. A. Askew and R. Holland (Admiralty Materials Leboratory, Poole, Dorset, England). In: Power sources 4: Research and development in non-mechanical electrical power sources; Proceedings of the Eighth International Symposium, Brighton, Sussex, England, September 24-26, 1972. Newcastle-upon-Tyne, England, Oriel Press, Ltd., 1973, p. 21-30; Discussion, p. 31. 7 refs.

A primary version of the lithium-sulfur cell has been developed in which the two parallel electrodes operate in close proximity in a sealed system. The cell uses a foam metal matrix for lithium retention and compressed graphite felt for the cathode current collector, separated by a thin layer of fused salt electrolyte. This three-liquid system was shown to be stable even when operated in a vertical plane. Cells with 8.3 sq cm electrodes have been discharged for periods of 20 min at a current density of 0.5A/sq cm at an average voltage of 1.8 V. A short-term power density capability of over 1.5 W/sq cm has been demonstrated. (Author)

A74-20630 Sealed, rechargeable nickel-zinc cells. A. Charkey (Energy Research Corp., Bethel, Conn.). In: Power sources 4: Research and development in non-mechanical electrical power sources; Proceedings of the Eighth International Symposium, Brighton, Sussex, England, September 24-26, 1972.

Newcastle-upon-Tyne, England, Oriel Press, Ltd.,

1973, p. 93-101, Grant No. DAAB07-71-C-0134.

Progress report on the development of a new generation of sealed, rechargeable nickel-zinc cells consistent with long life operation and economic construction. The cells discussed have nonsintered type active nickel electrodes and inorganic separator systems. Cyclic performance data obtained show that these cells are at present capable of 300 cycles and could be improved to a typical performance of at least 400 cycles. Truly long-life nickel-zinc batteries capable of 1000 cycles appear to be a distinct possibility in the near future.

M.V.E.

A74-20631 Nickel-zinc cells with non-sintered electrodes.
D. P. Boden and E. Pearlman (ESB, Inc., Yardley, Pa.). In: Power sources 4: Research and development in non-mechanical electrical power sources; Proceedings of the Eighth International Symposium, Brighton, Sussex, England, September 24-26, 1972.

Newcastle-upon-Tyne, England, Oriel Press, Ltd.,

1973, p. 103-112; Discussion, p. 112, 113. 9 refs.

Nickel-zinc cells have been fabricated from positive electrodes prepared by a unique, low-cost milling technique. These cells are capable of being discharged at the 4C rate with little capacity loss. At reduced temperatures no capacity loss is observed down to -18 C, while at -30 C approximately one-half of the room temperature capacity is obtained. One hundred and sixty full depth cycles have been obtained, provided that a simple conditioning procedure is applied periodically. (Author)

A74-21028 Schottky-barrier solar-cell calculations. D. L. Pulfrey and R. F. McOuat (British Columbia, University, Vaincouver, Canada). Applied Physics Letters, vol. 24, Feb. 15, 1974, p. 167-169.

The maximum theoretical conversion efficiency of Schottkybarrier solar cells is calculated in order to ascertain their possible utility. It is shown that Schottky-barrier solar cells are theoretically capable of a maximum solar-energy conversion efficiency very similar to that of conventional homojunction solar cells. Furthermore, the greater simplicity of fabrication of the former makes them an attractive consideration for use in both space and terrestrial environments.

A74-21316 High energy radiography - A new technique in the development of efficiency and integrity in aero gas-turbine engines. D. A. W. Pullen (Atomic Energy Research Establishment, Nondestructive Testing Centre, Harwell, Berks., England). (American Society for Nondestructive Testing, National Spring Conference, Los Angeles, Calif., Mar. 12-15, 1973.) Materials Evaluation, vol. 32, Feb. 1974. p. 25-30, 37. 6 refs.

Discussion of the use of radiography for measuring seal clearances between rotating and static components and for determining the position and shape of various components in a full range of static and dynamic conditions in gas turbine engines. A linear accelerator with its great output of high energy X rays has for the first time made possible such applications of radiography. The various parameters are reviewed which must be adhered to in order to obtain optimal results.

M.V.E.

A74-21874 # The environment and the gas turbine. A. H. Lefebvre and R. S. Fletcher (Cranfield Institute of Technology, Cranfield, Beds., England). In: Symposium on the Environment and Transport Technology, Loughborough University of Technology, Loughborough, Leics., England, September 10-13, 1973, Proceedings. Volume 2. Loughborough, Leics., England, Loughborough University of Technology, 1973, p. D.17.1-D.17.25, 18 refs.

The major pollutants produced by gas turbines and the manner and extent to which their exhaust concentration varies with combustor design and engine operating conditions are discussed. Various techniques for reducing emission levels are described, including rich and lean primary zones, water injection, compressor air bleed, variable geometry, and staged combustion. It is suggested that the 1979 U.S. EPA emission standards for aircraft can be met by relatively straightforward modifications to the combustor combined with the use of compressor air bleed at idling. Reference is made to the contribution made toward easing the emissions problem by a reduction in engine specific fuel consumption.

A74-22271 # Aviation turbine fuel and its lubricating qualities. II (Flugturbinenkraftstoff und seine Schmiereigenschaft, II). H. Ebert (Staatliche Luftfahrtinspektion, Berlin, East Germany). Technisch-ökonomische Informationen der zivilen Luftfahrt, vol. 9, no. 6, 1973, p. 322-324. In German.

Specifications for aviation turbine fuels prescribe a very low sulfur content because of highly unfavorable effects of sulfur admixtures on the nickel-containing structural materials employed in the aircraft propulsion systems. The available resources of mineral oil with the required low amounts of sulfur, however, are steadily decreasing. The aviation fuel needed must, therefore, be obtained by refining mineral oil which occurs naturally with higher sulfur contents. The refining process destroys unfortunately surface active substances which enhance the lubricating qualities of the oil. Approaches for overcoming these problems are considered.

G.R.

A74-22272 # The Dolphin airship with undulating propulsion system. A new form of the evaluation factor (Delphinluftschiff mit Wellantrieb. New Form der Wertigkeitszahl). W. Schmidt (KdT-Arbeitsausschuss zum Studium der Luftschiffahrt, Dresden, East Germany). Technisch-ökonomische Informationen der zivilen Luftfahrt, vol. 9, no. 6, 1973, p. 351-354. 7 refs. In German.

The airship evaluation factor due to Jaray and reported by Pfeiffer (1935) is considered. The evaluation factor is the ratio

between propulsion efficiency and air resistance coefficient. In the case of the Dolphin airship, the evaluation factor in its present form cannot be used due to the impossibility of a separate determination of the two parameters involved in the ratio. A new evaluation factor is, therefore, derived and used for the evaluation of a number of airships.

A74-22279 # The motion of a conducting piston in a channel with variable inductance (Dvizhenie provodiashchego porshnia v kanale s peremennoi induktivnost'iu). V. V. Poliudov, V. M. Titov, and G. A. Shvetsov. PMTF - Zhurnal Prikladnoi Mekhaniki i Tekhnicheskoi Fiziki, Nov.-Dec. 1973, p. 41-46. 7 refs. In Russian.

Consideration of the motion of a conducting piston in a conduction-type MHD generator channel with solid electrodes. Formulas are obtained for calculating the power characteristics of a pulsed MHD generator under various operating conditions. It is shown that in an MHD generator at values of the magnetic Reynolds number much greater than 1 the power transferred to an ohmic load can substantially exceed the values obtained by Pain and Smy (1961) and Conger (1967). The conditions for obtaining a high coefficient of conversion of piston kinetic energy into electrical energy at a maximum value of the ratio of the electrical energy to the energy of the initial magnetic field in the generator channel are discussed.

A.B.K

A74-22355 Design of high-temperature solid-electrolyte fuel-cell batteries for maximum power output per unit volume. E. F. Sverdrup, C. J. Warde, and R. L. Eback (Westinghouse Research Laboratories, Pittsburgh, Pa.). Energy Conversion, vol. 13, Dec. 1973, p. 129-141. 11 refs. Research supported by the U.S. Department of the Interior and Westinghouse Electric Corp.

A high-temperature, solid-electrolyte battery design study is reported for an integrated fuel-cell power system that makes possible power densities exceeding 8 kW per cu ft of power-cell volume. The cost of the battery raw materials is expected to lie in the range of \$10-20 per kilowatt of generating capacity. An approximate treatment, and also a distributed-parameter treatment, are presented.

M.V.E

A74-23091 * Aircraft symmetric flight optimization. M. Falco (Grumman Aerospace Corp., Research Dept., Bethpage, N.Y.) and H. J. Kelley (Analytical Mechanics Associates, Inc., Jerich, N.Y.). In: Control and dynamic systems. New York, Academic Press, Inc., 1973, p. 89-129. 16 refs. Contracts No. AF 29(600)-2671; No. AF 49(638)-1207; No. NAS9-11532.

Review of the development of gradient techniques and their application to aircraft optimal performance computations in the vertical plane of flight, Results obtained using the method of gradients are presented for attitude and throttle-control programs which extremize the fuel, range, and time performance indices subject to various trajectory and control constraints, including boundedness of engine throttle control. A penalty function treatment of state inequality constraints which generally appear in aircraft performance problems is outlined. Numerical results for maximum-range, minimum-fuel, and minimum-time climb paths for a hypothetical supersonic turbojet interceptor are presented and discussed. In addition, minimum-fuel climb paths subject to various levels of ground overpressure intensity constraint are indicated for a representative supersonic transport. A variant of the Gel'fand-Tsetlin 'method of ravines' is reviewed, and two possibilities for further development of continuous gradient processes are cited - namely, a projection version of conjugate, gradients and a curvilinear search.

A.B.K.

A74-23221 # Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels. J. W. Daily (Stanford University, Stanford, Calif.), J.

Raeder, and G. Zanki (Max-Planck-Institut für Plasmaphysik GmbH, Garching, West Germany). *AIAA Journal*, vol. 12, Mar. 1974, p. 403, 404. Contract No. F33615-72-C-1088.

A74-23376 Fluid power for aircraft: Modern hydraulic technology /2nd edition/. S. W. Merrill (Utah State University of Agriculture and Applied Science, Logan, Utah). Preston, Idaho, Intermountain Air Press, 1973, 286 p., 14 refs. \$9.00.

This book summarizes in a simple descriptive form the state of the art in aircraft applications of advanced hydraulic technology. The principles of hydraulic power generation, accident prevention and maintenance techniques, housekeeping practices, fluid supply in hydraulic units, direction and volume control, and hydraulic fluids are discussed. Hydraulic units, maintenance tools, plumbing operations, pressure-limiting, regulating and unloading devices, braking and landing gear systems, hydraulic system actuation, emergency pneudraulic systems, hydraulic testing, and support systems are described. Attention is given to the troubleshooting of a complete hydraulic system. A glossary of the terms used is appended.

A74-23464 # Airline airplanes for the eighties - A response.

J. Steiner (Boeing Commercial Airplane Co., Renton, Wash.).

Astronautics and Aeronautics, vol. 12, Mar. 1974, p. 42-51.

Considerations of airline airplane selection for the 1980s are discussed in response to a recent British appraisal. It is pointed out that more system efficiency can be gained, and fuel saved, by solving the scheduled-vs-charter situation than by any other means, including airplane and engine design. The total commercial passenger-airplane market is expected to continue to require large, medium, and small aircraft in both short- and long-range applications.

M.V.E.

A74-23839 # Lockheed S-3A Viking - With low fuel consumption over a wide power range the TF34-GE2 has high thrust to weight. Aircraft Engineering, vol. 48, Feb. 1974, p. 18-21.

A74-23842 # Photo-electric generators. W. Palz (Centre National d'Etudes Spatiales, Paris, France). Industries Atomiques et Spatiales, vol. 18, Jan. Feb. 1974, p. 21-25.

This is an introductory article covering the field of solar photoelectric generators. A description is first given of the various semiconductor materials which can be used in the manufacture of solar batteries. It is then given some insight into the technology currently used in the making and the installing of solar batteries. And finally a summary is given of the principal fields of application of the photoelectric converters. It is to be borne in mind that space vehicles are almost exclusively powered by solar photoelectric generators. On the other hand, earthside uses are in an incipient stage of development. In the context of today's international energy crisis, it can be predicted that they will have a brilliant future. (Author)

A74-24054 Cost effici tungsten carbide-carbon fuel cells (Zur wirtschaftlichen Arw. "dbarkeit von Wolframcarbid/Kohle-Brewsstoffzellen). H. Zirl, H. Böhm, and F. A. Pohl. Wissenschaftliche Berichte AEG-Telefunken, vol. 46, no. 3-4, 1973, p. 109-116. In German Research supported by the Bundesministerium für Forschung und Technologie.

It is shown that the WC-C fuel cell offers for many applications an excellent alternative to conventional power sources. For illustration, three demonstration examples are presented: (1) electric trucks for industrial warehouse and plant applications; (2) fork lift trucks; and (3) power supply for radio link stations.

M.V.E.

A74-24313 # Onboard energy sources and propulsion systems for balloons (Sources d'énergie de bord et systèmes propulsifs pour ballons). P. Balaskovic (ONERA, Châtillon-sous-Bagneux, Hauts-de-Seine, France). (Association d'Etude et de Recherche sur res Aéronefs Allégés, Colloque, Paris, France, Nov. 12-14, 1973.) ONERA, TP no. 1311, 1973. 9 p. 6 refs. In French.

The significant characteristics and merits of the various energy sources and propulsion systems are reviewed that present-day technology makes available for the propulsion of dirigibles or airships. It is shown that the highest cruising velocity achievable by modern means for a transatlantic airship of 1,000,000 cu m could hardly exceed the moderate figure of 215 km per hour.

M.V.E.

A74-24697 Astafan - A new concept from Turbomeca. N. Williams. Shell Aviation News. no. 421, 1974, p. 22-27.

Stemming from the basic design concept of the Turbomeca Astazou, the Astafan is a constant speed ducted fan engine. It is a marriage between the low bypass engine and the turboprop. In effect, the propeller was removed from an Astazou and a high bypass fan was fitted. The Astafan 111 has a bypass ratio of 8:1. The constant engine speed goes a long way toward preventing surge and flame extinction, and the airflow behind the fan is assisted by a double set of stator blades before reaching the main gas generator intake. Specific fuel consumption is only 0.365 lb/lb/hr, and takeoff thrust is 1740 lb, which with water injection increases to 1870 lb. The Astafan can make use of its reverse capability as an airbrake. Handling characteristics and procedures are discussed in detail.

F.R.L.

A74-24901 Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings (L'énergie photovoltaic et ses applications dans l'espace et sur terre; Congrès International sur le Soleil au Service de l'Homme, Paris, France, July 2-6, 1973, Compte Rendul. Congress sponsored by UNESCO. Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973. 662 p. In French and English. \$25.15.

Recent advances in silicon and Cu2S solar cells are reported in papers dealing with improved device fabrication processes, factors participating in degradation mechanisms, design details of spacecraft solar cell arrays, and prospects of economically justified terrestrial applications. Some particular topics include details of integrated solar cell panels, design features of flexible and deployable large arrays, fabrication methods for thin-film solar cell structures, and the performance of protective coating materials.

T.M.

A74-24902 The ESTEC technology programme in solar energy conversion. K. K. Reinhartz (ESRO, European Space Research and Technology Centre, Noordwijk, Netherlands). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings. Brétigny-sur-Orge, Essonne, France, Centre National d'Études Spatiales, 1973, p. 27-34.

14 refs.

Review of the current status and future prospects of a program of applied research on photovoltaic solar energy conversion sponsored by the European Space Research and Technology Center. The research carried out deals with solar cells (mainly silicon solar cells and only to a minor extent the Cu2S-CdS cell), silicon solar cells modules, including the use of welding for the interconnection of solar cells and the development of a process for the deposition of integral covers for solar cells by cathode sputtering of glass, and, finally, design studies of rigid and flexible deployable solar panels. A basic program of future applied research and technology in the field of photovoltaic energy conversion is outlined.

A.B.K.

A74-24903 Solar cell development in the Federal Republic of Germany. H. R. Lösch (Gesellschaft für Weltraumforschung mbH, Porz-Wahn, West Germany). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Bretigny-sur-Orge, Essonne, France, Centre National

d'Etudes Spatiales, 1973, p. 35-44, 11 refs.

Development work conducted with gallium arsenide was discontinued because the results made it appear that it would not be possible to meet the original design goal of a more economical and more reliable solar cell of lighter weight on a GaAs basis. It is pointed out, however, that GaAs cells might have possibilities for large power plants on earth. Work for the development of nuclear reactors was also terminated. The two reasons for this decision were the high development costs and new advances in enhancing the power of silicon cells. Since 1970 studies have been conducted to improve further solar cells by raising their efficiency, reducing cell thickness, and improving the radiation stability. Activities in the field of solar generators are also reported.

A74-24904 Results and future prospects on photovoltaic power development in France. W. Palz (Centre National d'Etudes Spatiales, Paris, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National

d'Etudes Spatiales, 1973, p. 45-52.

A flexible array with silicon cells has been built at SNIAS. It is a fold-up array with an end-of-life power of 1 kW. The actuator is a pantograph. In parallel, MATRA has developed an advanced rigid array. The comparison of both arrays shows that for typical missions such as telecommunications it would be preferable to use rigid arrays instead of flexible arrays as long as the mission power is to be lower than 1 kW. The main results and objectives of the CdS activity are presented. Tests on ground and in space have shown that the stability problems have been resolved. An analysis of the economic problems shows that the CdS cell is a promising device for terrestrial applications. (Author)

A74-24905 Analysis and improvement of silicon solar cells (Analyse et ameliorations des cellules solaires au silicium). D. Amingual, C. Motte, T. Nguyen-Duy (Société Anonyme des Télécommunications, Paris, France), S. Mottet, A. Roizes, R. Schuttler (ONERA, Département d'Etudes et de Recherches en Technologie Spatiale, Toulouse, France), and W. Palz (Centre National d'Etudes Spatiales, Paris, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 61-77. 10 refs. In French.

Both theoretical considerations and recent experimental results have demonstrated possibilities of improving standard solar cell performance. The analysis of limiting factors has led us to define three directions of study: the N type layer, the basic material, and the rear electrode. The ion implanted N layer has allowed a better spectral response at short wavelengths. Otherwise, a double diffusion process has solved the problem of contacts on a thin N layer. An increase of both open circuit voltage and fill factor has been obtained by lowering the basic material resistivity. A gridded rear electrode results in a lower operating temperature and an enhancement of the spectral response at long wavelengths. (Author)

A74-24906 The optimization of silicon photocell operated in conjunction with solar radiation concentrators. V. M. Evdokimov and A. F. Milovanov. In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National

d'Etudes Spatiales, 1973, p. 79-87.

A mathematical method is described for determining the

dependence of the efficiency of a silicon photocell on the doping level of the rear layer. Consideration is given to a cell with uniform exposure and to a cell illuminated perpendicularly to the p-n junction. For photocells with uniform exposure, the optimum doping level is found to increase as the light intensity increases. Intensity increase is accompanied by photocell heating with consequent rise of opposite saturation current and decrease of photovoltage. Therefore, the creation of a cooling system is seen as a means of obtaining greater efficiency. For photocells illuminated perpendicularly to the p-n junction, it is found necessary to reduce the front layer series resistance to obtain greater efficiency. P.T.H.

A74-24908 Technology and performance characteristics of integral diode solar cells. H. Fischer and W. Pschunder (Telefunken AG, Heilbronn, West Germany). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 99-110. 6 refs. Research supported by the Gesellschaft für Weltraumforschung.

This paper summarizes the possible technical approaches for the realization of integrated diodes. Part of an experimental optimization program is presented which leads to the innovation of a Schottky-type integral diode. Path resistance of the lateral diode on the rear side of the solar cell body is minimized by the introduction of a multifinger geometry. The influence of photo- and transistor effect which occur at a diode-solar cell structure was analyzed. Electrical characteristics of various integral diodes are presented. (Author)

A74-24909 Low-cost silicon solar cells for terrestrial applications. P. H. Fang (Boston College, Chestnut Hill, Mass.). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings. Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 111-115. NSF-supported research.

To realize a large-scale application of the photovoltaic generation of electricity as a terrestrial power source, a thin layer silicon solar cell structure is proposed. The silicon layer is grown on a stainless steel substrate with a titanium layer of about 1 micron in between to provide ohmic contact. The availability and the economy of stainless steel is recognized. The methods to grow the semiconductor silicon layer by evaporation, by chemical vapor deposition, and by sputtering are reported.

(Author)

A74-24910 New technology for CdS-Cu2S solar cells of high reliability. J. Besson, J. Fremy, T. Nguyen-Duy, G. Pichard (Société Anonyme des Télécommunications, Paris, France), and W. Palz (Centre National d'Etudes Spatiales, Paris, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 117-131. 7 refs.

Since the '9th Photovoltaic Specialists Conference', very important progress has been made. The final phenomena of electrochemical instabilities have been ruled out, even for cells being operated in open circuit conditions. The technology has been qualified by a combined test program in space and on ground. Moreover, the technology has been simplified; the collecting grid is now laid down by an electroplating process. Owing to these advancements, it has been considered that the starting of mass fabrication was justified. At this moment a 70 W generator for balloons is being completed.

A74-24911 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power

applications. R. J. Mytton (International Research and Development Co., Ltd., Newcastle-upon-Tyne, England). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 133-150, 12 refs.

A brief assessment is given of the current position regarding the relative merits of CdS and silicon solar cells for both space and terrestrial applications. Having drawn attention to the present absence of any known major stability problem with CdS cells, two other important criteria are adopted for drawing a comparison between the two cells. The first of these is the expected cost in medium scale production of solar modules required for remote and portable terrestrial applications. Brief details are given of an integrated approach to the CdS module construction which uses current technology but results in significant cost savings. The other criterion is the power-to-weight ratio for space arrays. In both of these cases CdS cells are shown to possess significant potential advantages.

A74-24912 Possibilities of the thin solar battery applications for the terrestrial use units. I. V. Karpenko and R. N. Tykvenko (Ministry of Electrical Engineering) Industry, Moscow, USSR). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétignysur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 151-157.

Thin film photoconverters on the basis of cadmium sulphide and telluride are considered. The photovoltaic effect is realized in Cu2S-CdS, Cu2S-CdTe, and Cu2-Te-Cd2Te heterojunctions where Cu2S or Cu2Te layers are produced by a chemical mode or by discrete spraying in vacuum. The base thin film photoelectric characteristics are given. Thin film module constructions in glass sealed tubes and the results of their tests under terrestrial conditions are considered.

A74-24914 Partial results concerning CdS solar cells. J. Bernard, S. Mottet (ONERA, Département d'Études et de Recherches en Technologie Spatiale, Toulouse, France), and J. Martin (Centre National d'Études Spatiales, Toulouse, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings. Brétigny-sur-Orge, Essonne, France, Centre National d'Études Spatiales, 1973, p. 173-182.

For several years the CNES has developed thin-film solar cells using CdS as the basic material. This material possesses good photoelectric qualities and has the advantage of having physical properties in the form of thin polycrystalline films almost identical to the material mass. Efficiencies of 7 per cent are regularly obtained with solar cells covered with Aclar, and one has the right to ask if space or earth uses might be possible. In this paper, we make a synthesis of the main results we obtained during the last years in order to foresee the different uses of this new type of solar cells.

(Author)

A74-24915

Terrestrial utilization of CdS-Cu2S solar photocells in the south of France (Utilisation terrestre des photopiles solaires aux Cds-Cu2S dans le sud-est de la France). S. Martinuzzi (Aix-Marseille, Université, Marseille, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 183-188. 5 refs. In French.

The performance of photovoltaic conversion of solar energy by means of CdS-Cu2S thin films photocells is examined, in the French east south, for the 1980-1990 period, it seems that this production mode of electric energy could be competitive, around 1985, if the

conventional kWh price is three times increased because of the (Author) antipollution stresses and the increase of fuel price.

On inhomogeneities of thin film solar cells. G. A74-24918 H. Hewig and P. Pfisterer (Stuttgart Universität, Stuttgart, West Germany). In: Photovoltaic power and its applications in space and on earth; International Concress on the Sun in the Service of Man. Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spa-

tiales, 1973, p. 207-216, 13 refs.

The local distribution of surface potential, photovoltaic efficiency, and temperature under forward and reverse current conditions of Cu(x)S-CdS thin film solar cells have been studied. The methods employed were a scanning electron beam, a scanning light beam, and a cholesteric liquid crystal. All cells investigated by the above methods show inhomogeneities in both local domains and larger areas. Special forms of degradation were investigated by a flying-spot tube, and the buildup of local defects can be proved.

(Author)

The RAE lightweight solar array, F. C. Treble A74-24921 (Royal Aircraft Establishment, Space Dept., Farnborough, Hants., England). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings. Brétianysur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 239-250.

This paper traces the development of the RAE lightweight flexible fold-up solar array, culminating in the recent successful tests on a 280 W prototype which have qualified the design for six years in geostationary orbit. The array embodies a number of unique features, including 125 micron silicon solar cells with wraparound contacts, 100 micron ceria-stabilized glass coverslips, cementless mounting of cells on the flexible substrate, and deployment by a pneumatically actuated telescopic mast. A small version of the array is to be flown on the British X4 satellite in 1974, and a 900 W derivative is planned for the Geostationary Technology Satellite.

Optical coatings for semiconductor photo-A74-24924 voltaic converters and solar energy concentrators. M. M. Koltun (Ministry of the Electrical Engineering Industry, Moscow, USSR). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France July 2.6, 1973, Proceedings. sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 273-282: 11 refs.

The results of investigations performed on the optical coating properties for solar energy semiconductor photoconverters and concentrators are given. It is shown that with the aid of optical coatings the problems of reduction of solar radiation reflection from the semiconductor surface, improvement of the heat balance, protection of the conductor photoconverter from space radiation, and protection of the solar energy concentrator from atmospheric effects can be solved. (Author)

Current delivered by the solar array of the D2A-Tournesol satellite (Courant délivré par le générateur solaire du satellite D2A-Tournesol). M. Audibert (Centre National d'Etudes Spatiales, Paris, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings. (A74-Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 327-350. 5 refs. In French.

The current-voltage characteristics of the silicon solar cell array of D2A were measured under laboratory conditions of an air mass of 1, an illumination of 100 mW/sq cm, and a cell temperature of 28 C. It was calculated that the value of the current obtained (2.38 A) would have to be multiplied by a factor of 1,18 to obtain the value of the current that the solar array would have delivered under standard operating conditions of air mass zero, illumination equal to one solar constant, and cell temperature of 28 C. The current was then measured during the first orbit and was found to be 1.14 times the laboratory value, A different value for the solar constant would have obtained the correct correction factor. In the first ten months of orbit, the degradation of the array was found to be greater than predicted, but after the twelfth month the predicted and actual degradation were in close accord. Bombardment of the cells by low energy protons is discussed as a principal cause of degradation.

PTH.

Description and interpretation of the results Δ74-24929 observed concerning the technological solar cell satellite. J. Bernard, S. Mottet (ONERA, Département d'Études et de Recherches en Technologie Spatiale, Toulouse, France), and M. Le Metayer (Centre National d'Etudes Spatiales, Toulouse, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, Brétigny-sur-Orge, Essonne, 1973. Proceedings. France, Centre National d'Etudes Spatiales, 1973, p. 351-359. 8 refs.

Within the framework of the Franco-Soviet cooperation agreement, a technological satellite was launched in April 1972 with the aim of studying solar cells. Several experiments concerning new technological aspects of solar cells were undertaken to examine thin film CdTe solar cells, thin film CdS solar cells, and silicon solar cells (preirradiated and nonirradiated). The effects observed on silicon solar cells and on other thin-film solar cells made of CdS and CdTe are described. The observed short-circuit degradations are compared with those previously obtained under laboratory conditions.

(Author)

The solar generator of the telecommunication A74-24933 satellite Symphonie. W. Kirchhof (Centre National d'Etudes Spatiales, Brétigny-sur-Orge, Essonne, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Brétigny-sur-Orge, Essonne, France, Proceedings. Centre National d'Etudes Spatiales, 1973, p. 417-431.

During the project definition phase, three different solar generator concepts for the three-axis stabilized satellite Symphonie were investigated - one version with three rigid arrays, the other with two semiorientable arrays, and the third with two orientable arrays. The major problems and constraints are examined and discussed. This study led to the choice of the fixed version with three nonoriented and body-fixed arrays spaced at 120 deg. Its performance is described. In this configuration, the solar generator will supply the power for a lifetime of 5 years. (Author)

Photoelectric power engineering, N. S. Lido-A74-24936 renko and A. P. Landsman (Ministry of Electrical Engineering Industry, Moscow, USSR). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 477-490.

Advances and improvements in the field of solar batteries are considered. The damage in solar batteries caused by corpuscular radiation can be significantly reduced by increasing the resistance of the silicon base. Other advances are connected with the thermal annealing of radiation damage and the implantation of lithium as a doping ingredient. Improvements in thermal cycle stability are discussed together with high-temperature solar batteries and highvoltage photovoltaic solar converters. G.R.

A74-24937 Direct energy conversion by means of solar cells. M. S. Erlicki, N. Friedman, D. Schieber, and S. Gavril (Negev, University, Beersheba, Israel). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 491-501.

Results for the first two years of work on direct conversion of solar into electrical energy, carried out by our research group, are presented. The study was undertaken with a view to examining the potentialities of solar-cell energy conversion under earth conditions in general, and in Israel in particular. Automatic measurements and recordings in stations dispersed throughout the country are processed by a central system. The design of the stations, and original design techniques for single-cell measurement units and multiple arrays are described. The experimental part of the paper includes a description of the special processing of the meteorological observations, with a view to data on the design of power supplies based on solar cells.

(Author)

A74-24939 Investigation of photovoltaic applications. B. P. Kelly, J. A. Eckert (ESSO Research and Engineering Co., Linden, N.J.), and E. Berman (Solar Power Corp., Braintree, Mass.; ESSO Research and Engineering Co., Linden, N.J.). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 511-518.

Photovoltaic energy systems are described which compete economically with other power sources for terrestrial applications. A detailed description of a silicon solar cell module specifically designed to meet the cost and environmental requirements of various applications is described, including a description of the power conditioning, power storage, and powered equipment and the results of tests and installations in service during the last two years.

(Author)

A74-24940 Solar generators for sounding balloons (Générateurs solaires pour ballon sonde). Y. Salles (Radiotechnique-Compelec, Caen, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 581-586. In French.

Silicon solar arrays provide an excellent means of supplying on-board energy for electronic devices in sounding balloons which must remain some time in the atmosphere. The environmental stresses to which the generators are subjected, are examined. Three types of solar arrays are described together with the technologies developed for their applications and the results obtained. (Author)

A74-24941 * Conclusions and recommendations of the United States Solar Energy Panel. W. R. Cherry (NASA, Goddard Space Flight Center, Greenbelt, Md.) and F. H. Morse (Maryland, University, College Park, Md.). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 587-597, 12 refs.

The United States Solar Energy Panel was charged with assessing the potential of solar energy as a national energy resource. Three areas evolved where solar energy could supply significant amounts of the U.S. future energy needs: (1) energy for heating and cooling of buildings, (2) the production of fuels, and (3) the generation of electrical power. It was concluded that with adequate R&D support over the next 30 years, solar energy could provide at least 35 percent of the heating and cooling of future buildings, greater than 30 percent of the methane and hydrogen needed in the U.S. for gaseous fuels, and greater than 20 percent of the electrical power needs of

the U.S. All of this could be done with a minimal effect on the environment and a substantial savings of nonrenewable fuels.

(Author)

A74-24942 Space solar power. P. E. Glaser (Arthur D. Little, Inc., Cambridge, Mass.). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Etudes Spatiales, 1973, p. 599-618, 47 refs.

The results of work carried out on a satellite solar power station (SSPS) since the concept was presented at the 1968 Solar Energy Conference are reviewed. The objective of this concept is to supply electrical power on the earth to provide an economically viable and environmentally and socially acceptable alternative to other energy production methods. The principle on which the SSPS is based relies on salar energy conversion in a satellite in synchronous orbit to produce electricity. This electricity is fed to microwave generators arranged to form an antenna which directs a beam to a receiving antenna on earth, where the microwave energy is efficiently and safely converted back to electricity. (Author)

A74-24943 Current prospects for solar cells (Perspectives actuelles des photopiles solaires). M. Rodot and G. Cohen-Solal (CNRS, Laboratoire de Physique des Solides, Meudon, Hauts-de-Seine, France). In: Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings.

Brétigny-sur-Orge, Essonne, France, Centre National d'Études Spatiales, 1973, p. 619-632, 12 refs. In French.

Review of the current performances and limitations of two generations of solar cells which have been successfully developed. The technical and economic factors which have contributed to the success of both the silicon single-crystal solar cell and the CdS polycrystalline film solar cell are outlined. It is sphomethat CdS cells make it possible to envisage a large range of applications where an energy cost of the order of 0.01 to 0.1 dollar/watt-hour is admissible. It is concluded that cells with variable forbidden bands, the theory and initial prototypes of which have been developed by Marfaing and Cohen-Solat (1968), should make possible an improvement in the efficiency (up to 25 percent) and cost of photoelectric energy in the not too distant future.

A.B.K.

A74-24986 # Spaceborne sources of electric power (Bortovye istochniki elektricheskogo pitaniia). N. 1. Sizov and V. K. Shablovskii. Moscow, Voenizdat, 1973. 100 p. 20 refs. In Russian.

The state of the art of power generation systems carried by spacecraft and rocket stages is reviewed, covering solar cells, fuel cells, chemical, biochemical, thermoelectric and thermionic cells, atomic power batteries, and MHD generators. Various electric power converter designs used in spacecraft technology are also considered. Further developments in the field are visualized to meet the growing challenges of spaceflight technology.

A74-25217 Modelling of combustors - The effects of ambient conditions upon performance. D. Kretschmer and J. Odgers (Université Laval, Quebec, Canada). In: Combustron Institute, European Symposium, Sheffield, England, September 16-21, 1973, Proceedings. London, Academic Press, Inc. (London), Ltd., 1973, p. 451-456. Research supported by the National Research Council of Canada.

The attainability of the very low limits which have been set for 1975/76 automobiles and 1979 gas turbines is studied on the basis of a theoretical model developed to comprise a simple premixed two-stage combustor, with a stirred reactor as the first stage and a dilution zone as the second stage. The performance of the combustion section is calculated from an equation derived by Kretschmer and Odgers (1972), with the aid of which the air and fuel loadings

can be related to the equivalence ratio and combustion efficiency. It is shown that attainment of the low pollution levels will be extremely difficult. Changes in inefficiency due to ambient conditions are very significant at these levels, so that corrective techniques will be essential. Test rig repeatability is also in doubt.

V.P.

A74:25221 Oxidation of carbon monoxide in diluted combustion products at engine idling conditions. F. H. Holderness (National Gas Turbine Establishment, Farnborough, Hants., England). In: Combustion Institute, European Symposium, Sheffield, England, September 16-21, 1973, Proceedings. (A74-25176 10-33) London, Academic Press, Inc. (London), Ltd., 1973, p. 499-504.

The rate of CO burnout under conditions simulating operational engine idling downstream of the dilution plane was determined from a simple study of combustion. In general, the results indicate that for idling conditions, CO is unlikely to be eliminated effectively by oxidation in the fully diluted gas.

V.P.

A74-25352 # New frontiers of civil aeronautics (Les nouvelles frontières de l'aéronautique civile). C. Abraham (Transports Aériens Réunis, Aéroport de Nice, Nice, France). Association Aéronautique et Astronautique de France and Union Syndicale des Industries Aéronautiques et Spatiales, Congrès International Aéronautique, 11th, Ecole Nationale Supérieure de Techniques Avancées, Paris, France, May 21-23, 1973, Paper. 15 p. in French.

The future development of civil aviation is discussed from the viewpoint of new constraints dictated by considerations of the quality of life and the economic environment. Factors considered include reduction of noise levels, sonic boom hazards, engine exhaust and toxic emission regulations, the availability of aircraft fuels, transport time intervals, availability of airspace, and airport capacity and access problems. The nature of problems posed by each of these factors is discussed along with promising solutions.

T.M.

A74-25481 Trapping of solar energy at Bamako with the aid of a silicon solar cell panel (Sur le captage d'énergie solaire à Bamako à l'aide d'un panneau de cellules solaires au silicium). J. Fléchon (Nancy I, Université, Nancy, France) and L. Keita (Ecole Normale Supérieure, Bamako, Mali). Académie des Sciences (Paris), Comptes Rendus, Sèrie B - Sciences Physiques, vol. 278, no. 8, Feb. 18, 1974, p. 303-306. In French.

Investigation of the optimal use conditions for a solar panel of photovoltaic cells designed to make available directly usable electric energy for the local needs of Sahara-near Sudanese regions lacking electric utility supplies. The tests and studies were conducted at the laboratory of physics of the Bamako Ecole Normale in the Sudan.

M.V.E.

A74-25723 Does research in the field of aeronautics have a future (Hat die Luftfahrtforschung noch eine Zukunft). G. Brüning and K. Gersten. *DGLR Mitteilungen*, vol. 7, Feb. 1974, p. 2-6, In German.

Since aviation technology has attained such a high degree of development, the question is raised concerning remaining possibilities for further growth. Clearly, much effort will be devoted to cost reduction and the refinement of present technology. However, many new fields of research are just beginning to be opened up. These include controlled configuration vehicles, the application of computers to engineering problems, the use of computers in navigation systems, noise reduction, atomic fuels, and composite materials. It is stressed that cooperation between European nations will be necessary for overcoming cost limitations in European research.

P.T.H.

A74-25901 Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings. Symposia sponsored by IEEE, NASA, and AEC. IEEE Transactions on Nuclear Science, vol. NS-21, Feb. 1974, 1012 p.

Subjects considered are in the areas of position sensitive detectors, semiconductor detector materials, semiconductor detector technology, biomedical instrumentation, reactor instrumentation, nuclear instrumentation, and data acquisition and processing. Topics related to photon detection are discussed together with methods for environmental radiation measurement, aspects of environmental gamma-ray analysis, and nuclear techniques for elemental analysis. Attention is also given to operation and design experience with systems at nuclear power plants.

Individual items are announced in this issue.

G.R.

A74-26324 Solar generator simulation for satellite projects (Solargeneratorsimulation für Satellitenprojekte). A. Schreger. AEG-Telefunken, Technische Mitteilungen, vol. 64, no. 1, 1974, p. 10-15. In German

The operation of a solar cell power source as used on artificial satellites is outlined. Knowledge of the following parameters of the solar generator is considered necessary for the design of a simulator which will be able to reproduce its voltage-current behavior: the short-circuit current, the discharge voltage, the power output, and the impedance. Both digital and analog simulations are possible, though less problems are connected with analog simulation. The design and operation of an analog simulator are described which can employ either a single solar cell or a Zener diode as a reference element.

A74-26817 Solar energy conversion for spacecraft. F. C. Treble (Royal Aircraft Establishment, Space Dept., Farnborough, Hants., England). In: Electric propulsion of space vehicles; Proceedings of the Conference, Abingdon, Berks., England, April 10-12, 1973. (A74-26801 11-28) Stevenage, Herts., England, Institution of Electrical Engineers, 1973, p. 89-93.

The design and performance characteristics of modern solar arrays whose basic element is a slice of single-crystal silicon, typically measuring 2 by 2 cm and 300 or 125 microns thick, are discussed. In the n-on-p configuration, a shallow junction is formed by diffusing phosphorus into the boron-doped crystal. Metal contacts are plated or evaporated on the front and back of the cell, and the active surface is coated with an SiO or TiOx antireflective layer. The cell responds to wavelengths between 0.4 and 1.1 micron, peaking at 0.8 to 0.85 micron. The behavior of efficiency as a function of the temperature is examined. Recent developments in large arrays constructed of folded rigid panels or of rolled or folded flexible panels are illustrated and discussed.

A74-27136 Turbo-actuators turn flow into mechanical output. P. H. Stahlhuth (Philoo-Ford Corp., Newport Beach, Calif.). Hydraulics and Pneumatics, vol. 27, Apr. 1974, p. 89-92.

The design characteristics, principles of operation, and performance of a novel high-force turbine-driven actuator are discussed. Intended for thrust vector control, the actuator converts the power from hot or cold gas flows or from bleed air into mechanical output, and provides a rotary or linear output force in response to input commands. The actuator will operate directly on hot dirty solid-propellant gases, using the same hot-gas control valves which are being used for thrust vector control systems on Minuteman and Poseidon missiles.

A74-27320 Nuclear eclectic power. D. J. Rose (MIT, Cambridge, Mass.), *Science*, vol. 184, Apr. 19, 1974, p. 351-359, 23 refs.

Assessment of the prospects of nuclear electric power production in the context of other power sources and of the current energy demends and resources. The properties, economic costs and demands of nuclear plants, the U.S. uranium resources, nuclear hazards and waste disposal, breeder reactors, controlled fusion, and nuclear vs fossil power are discussed. It is pointed out that there are some reasons, both technological and social, to expect that the increase of nuclear power application for electric power generation will be even greater than had been hitherto anticipated. The impact of this increase on the economy, skilled labor, and capital investments is visualized.

A74-27321 Geothermal electricity production. G. R. Robson (United Nations, New York, N.Y.). Science, vol. 184, Apr. 19, 1974, p. 371-375, 11 refs.

An attempt is made to evaluate the economic, institutional and technological factors which will influence the production of geothermal electricity in the near future. Dry steam and hot water geothermal fields which may be available for electric power generation are assessed. Emphasis is on the U.S. prospects in the field.

V.Z.

A74-27322 Solar energy by photosynthesis. M. Calvin (California, University, Berkeley, Calif.). Science, vol. 184, Apr. 19, 1974, p. 375-381, 32 refs. AEC-sponsored research.

Discussion of the chemical, energetic and economic aspects of solar-to-electric energy conversion by photosynthesis. Several model systems of photosynthetic solar energy conversion are described in detail, including photochemical hydrogen production, carbohydrate and polyisoprene production, and oxygen production by photolysis of binuclear manganese compound. The photoelectric membrane is considered as an agent in the primary quantum conversion event in the green plant. It is anticipated the conversion of carbohydrates from cane or beets through alcohol-to-hydrocarbon fermentation may become economic due to improved fermentation technology and increasing costs of hydrocarbon recovery from fossil sources.

V.Z

A74-27323 Solar energy utilization by physical methods. M. Wolf (Pennsylvania, University, Philadelphia, Pa.). *Science*, vol. 184, Apr. 19, 1974, p. 382-386, 16 refs.

Wind power, ocean thermal gradient power, solar heat, and solar-to-electric power conversion are considered as means of solar energy utilization by physical methods. An evaluation is made of total solar energy delivery on the projected U.S. energy economy. It is estimated that the potential sales in photovoltaic arrays alone can exceed \$400 million by 1980 to meet the projected capacity buildup.

V.Z.

A74-27466 # A model of convex programming for turbojet main parameter selection optimization. C. Turcanu (Institutul de Mecanica a Fluidelor si Constructii Aerospatiale, Bucharest, Rumania). American Society of Mechanical Engineers, Gas Turbine Conference and Products Show, Zurich, Switzerland, Mar. 30-Apr. 4, 1974, Paper 74:G7-79. 6 p. Members, \$1.00; nonmembers, \$3.00.

A mathematical modeling of well-known methods used to define turbojet main parameters, aiming at solution optimization, is described. The parameters considered include: compression ratio, maximum temperature for turbine, compressor efficiency, turbine efficiency, and others. A function representing a sum of the ratios describing specific thrust and SFC deviations against maximum specific thrust and minimum SFC, respectively, is derived. Main parameter selection criteria pending on engine operation conditions and aircraft category are introduced. Mathematical analysis for main

parameter selection optimization leads to a convex programming model for which both the function and the constraints are convex functions defined by convex fields. (Author)

A74-27611 # Complete mechanical energy utilization in aeronautical propulsion systems (O iskorishchenju mekhanichke energije vazdukhoplovnikh pogonskikh grupa). S. Pivko. Srpska Akademija Nauka i Umetnosti, Glas, Odeljenje Tekhnichkikh Nauka, no. 10, 1973, p. 91-108. In Serbian.

Energy losses during useful power production in reciprocating piston engines and turbojet engines are discussed. Mechanical friction, propeller blade drag and slipstream turbulence and rotation are considered as the causes of energy losses in the former. Mechanical friction, incomplete kinetic-to-pressure energy conversion, air compression in the compressor, incomplete fuel burning, gas flow turbulence, acceleration and drag, combustion product expansion, and incomplete gas-to-kinetic energy conversion in the nozzle are considered as the causes of energy losses in the latter. V.Z.

A74-27752 # Photoelectric converters based on various CdS heterojunctions (Fotoelektrichni preobrazovateli na osnovata na razlichni kheteroprekhodi k'm kadmiev sulfid). S. K'nev, E. Konstantinova, V. Stoianov, and R. Stefanov, B'lgarska Akademiis na Naukite, Fizicheski Institut s ANEB, Izvestiia, vol. 24; 1973, p. 23-33. 16 refs. In Bulgarian.

The properties of solar-to-electric energy converters are discussed with particular attention to photoelectric converters using CuS-CdS, CuTe-CdS, BiS-CdS; and CrS-CdS junctions. Techniques for obtaining such heterojunctions by electrochemical treatment of respective sulfide materials are described, with details concerning the formation of p-layers. The parameters and performance characteristics of junctions prepared by these techniques are included. Photoconverters produced by these techniques perform steadily in time and have an efficiency of 4 to 6%.

V.Z.

A74-27772 * # Status of wind-energy conversion. R. L. Thomas and J. M. Savino (NASA, Lewis Research Center, Cleveland, Ohio). National Science Foundation, RANN Symposium, Washington, D.C., Nov. 18-20, 1973, Paper. 8 p.

The utilization of wind energy is technically feasible as evidenced by the many past demonstrations of wind generators. The cost of energy from the wind has been high compared to fossil fuel systems. A sustained development effort is needed to obtain economical systems. The variability of the wind makes it an unreliable source on a short-term basis. However, the effects of this variability can be reduced by storage systems or connecting wind generators to fossil fuel systems, hydroelectric systems, or dispersing them throughout a large grid network. The NSF and NASA-Lewis Research Center have sponsored programs for the utilization of wind energy.

A74-27775 * # H2-O2 combustion powered steam-MHD central power systems. G. R. Seikel, J. M. Smith, and L. D. Nichols (NASA, Lewis Research Center, Cleveland, Ohio). University of Miami, Hydrogen Economy Miami Energy Conference, Miami Beach, Fla., Mar. 18-20, 1974, Paper, 13 p. 9 refs.

Estimates are made for both the performance and the power costs of H2-O2 combustion powered steam-MHD central power systems. Hydrogen gas is assumed to be transmitted by pipe from a remote coel gasifier into the city and converted to electricity in a steam MHD plant having an integral gaseous oxygen plant. These steam MHD systems appear to offer an attractive alternative to both in-city clean fueled conventional steam power plants and to remote coal fired power plants with underground electric transmission into the city. (Author)

A74-27833 # Solar vs. nuclear power - Is there a choice. B. Raab and J. J. Karlin (Fairchild Space and Electronics Co., Germantown, Md.). American Institute of Aeronautics and Astronautics, Communications Satellite Systems Conference, 5th, Los Angeles, Calif., Apr. 22-24, 1974, Paper 74-489. 14 p. 12 refs. Members, \$1,50; nonmembers. \$2,00. Contract No. AT(49-15)-3063.

The anticipated development of advanced high-performance radioisotope power systems has motivated a new evaluation of their possible utility in earth-orbit missions. These have been compared, in detailed spacecraft design studies, with current and improved oriented-solar-array/battery systems in commercial synchronous-orbit application. It is concluded that the nuclear systems would be economically superior to current solar systems, including violet cells, and potentially competitive with systems employing nickel-hydrogen batteries. This results in part from significant reductions in house-keeping power, and in the weights of other subsystems, which can be achieved with nuclear power. (Author)

A74-27842 # Reduction of TACV power requirements by multiple-stage air cushions. W. R. Eberle (Purdue University, Lafayette, Ind.). Journal of Aircraft, vol. 11, Mar. 1974, p. 154-159. 6 refs. NSF Grant No. GK-2773.

One of the problems associated with tracked air cushion vehicles (TACVs) is their high power requirement. It is shown that the power required for levitation for such vehicles can be significantly reduced by the use of multiple-stage air cushions. A mathematical model for these air cushions is developed, and the air cushion pressures obtained from the model are compared with experimental pressures. It is shown that one of the most significant features of multiple-stage air cushions is their inherent roll stability as opposed to an inherent instability for conventional air cushion designs. This inherent roll stability allows a significant reduction in the power required for levitation for tracked air cushion vehicles.

(Author)

A74-28311 Engine sensory requirements for energy management. I. A. Carnegis (USAF, Flight Dynamics Laboratory, Wright-Patterson AFB, Ohio). In: Instrumentation for airbreathing propulsion; Proceedings of the Symposium, Monterey, Calif., September 19-21, 1972.

Press. 1974. p. 419-436.

Advanced high-performance military fighter and bomber systems must use an advanced technique of energy management. Energy management in terms of optimum throttle and flight path will yield significant improvements in fuel, time, and distance over conventionally operated aircraft. Nominal flight path performance for certain mission segments is compared to fixed throttle optimum flight path performance and to variable throttle optimum flight path performance. Mission throttle control parameters are identified that can be measured in the engine and on the airframe during flight. These parameters are used to serve as indicators of the optimum throttle position. This avoids the necessity of carrying extensive throttle position data on board the aircraft. Sensors and transducers that may be used in the flight control/engine throttle control system are discussed.

(Author)

STAR FNTRIES

N74-15734*# Kanner (Leo) Associates, Redwood City, Calif. WIND ENERGY: ITS VALUE AND THE CHOICE OF SITE FOR EXPLOITATION

P. Ailleret Washington NASA Jan. 1974 20 p Transl. into ENGLISH from Rev. Gen. Elec. (Paris), v. 55, Mar. 1946 n 103-108

(Contract NASw-2481)

(NASA-TT-F-15311) Avail: NTIS HC \$3.00 CSCL 10A

The problem of wind power utilization is discussed, including determination of wind power per square meter obtained yearly from surfaces subjected to wind action, and systematic prospecting for favorable sites using a simple anemometric device which calculates wind speed with the aid of a special electric meter. A description is given of a program for site selection which will make it possible to determine the energy which can be produced Author by the wind engines used.

N74-15739*# Scientific Translation Service, Santa Barbara,

HIGH POWERED ELECTRICAL POWER GENERATION BY WIND MOTORS

M. Kloss Washington NASA Feb 1974 11 p ref Transl. into ENGLISH from Elektrotech, Z. (West Berlin), v. 72, no. 7, 1 Apr. 1951 p 201-202 (Contract NASw-2483)

(NASA-TT-F-15303) Avail: NTIS HC \$3.00 CSCL 10A

The development of a wind wheel for electric power generation is discussed. The interaction between the wind wheel and the generator is accomplished with a power control device to prevent overloading the generator when the wind velocity increases. The self-controlled running wheel of the wind motor adjusts the blade angle of attack to compensate for the wind velocity. The generator must be dimensioned for the greatest wind intensity in order to accept the entire wind wheel power. The wind generation installation delivers all of the produced energy to the network so that other generating stations operating in parallel and the storage units must adjust the power level to the consumers.

Author

N74-15740*# Techtran Corp., Glen Burnie, Md. NEUWERK WINDMILL POWER GENERATION PLANT .W. Mackenthun Washington NASA Jan. 1974 12 p refs Transl, into ENGLISH from Elektrizitaetswirtschaft (Frankfurt am Main), no. 11, Nov. 1951 p 322-325 (Contract NASw-2485)

(NASA-TT-F-15306) Avail: NTIS HC \$3.00 CSCL 10A

The installation and characteristics of a windmill power generation plant are discussed. The meteorological parameters of the German North Sea Coast which influenced the location of the windmill power generating system are analyzed. The regulating devices for compensating for changes in wind velocity are described. Results of the power generation operation for the Author year 1950 are tabulated.

N74-15741*# Scientific Translation Service, Santa Barbara, ECONOMY AND PRACTICAL APPLICATIONS OF LARGE WIND-DRIVEN POWER PLANTS, PART 1

H. Witte Washington NASA Feb. 1974 14 p refs Transl. into ENGLISH from Elektrotech. Z. (Berlin), v. 59, no. 51, 22 Dec. 1938 p 1373-1376 (Contract NASw-2483)

(NASA-TT-F-15308) Avail: NTIS HC \$3.00 CSCL 10A

The question of the economy of large scale wind electrical generating stations is investigated based on present findings. By exploiting wind energy for producing electrical power, large amounts of coal could be made available for other uses, and would also ease our foreign currency situation. The practical aspects of large scale wind electrical power generating plants are discussed. The construction of a ring generator is described.

N74-15742*# Kenner (Leo) Associates, Redwood City, Calif. WIND POWERED MACHINES

Ya. I. Shefter Washington NASA Jan. 1974 279 p refs Transl. into ENGLISH of the book "Vetroenergeticheskiye Agregaty" Moscow, Mashinostroyeniye Press, 1972 288 p. (Contract NASw-2481)

(NASA-TT-F-15149) Avail: NTIS HC \$16.00 CSCL 10A

The basic problems connected with the selection of layouts and calculation of parameters of wind machines, their energyproducing characteristics and technical and economic indices are presented. Methods of optimal matching of wind engines with working machines, calculators for strength, and construction and automation of wind machines are analyzed in detail. A description is given of the setup of domestic and foreign wind installations for various purposes. Basic characteristics of wind as a source of energy, brief information from aerodynamics, the theory of the wind engine and calculation of its aerodynamic characteristics are presented. In conclusion, recommendations are presented for use of wind machines according to zone. The book is intended for engineers, designers and workers of scientific and research institutes connected with creation and utilization of wind machines and for engineers and mechanics in agriculture.

Author

N74-15743*# Kanner (Leo) Associates, Redwood City, Calif. WIND POWER PLANTS IN RUSSIA

Th. Sauer Washington NASA Feb. 1974 7 p refs Transl. into ENGLISH from VDI (Ver. Deut. Ing.) Z. (West Germany). v. 81, no. 32, 7 Aug. 1937 p 947-948

(Contract NASw-2481)

(NASA-TT-F-15331) Avail: NTIS HC \$3.00 CSCL 10B

Several measures relative to wind power plants have been taken by the Soviet government, and are outlined. The large Balaklava wind power plant is described briefly. The wind power experimental facility in Moscow is illustrated in a diagram and its operation discussed in some detail. Author

N74-15745*# Kanner (Leo) Associates, Redwood City, Calif. OBSERVATIONS ON MODERN WIND ELECTRIC POWER PLANTS

G. Serragli - Washington NASA Feb. 1974 22 p refs Transl. into ENGLISH from Elettrotecnica (Italy), v. 34, 10-25 Dec. 1947 p 494-498

(Contract NASw-2481)

(NASA-TT-F-15357) Avail: NTIS HC \$3.25 CSCL 10B

Development of the aeronautical type windmill design and the installation of wind-powered electricity plants is held feasible for Italy undergoing post-war reconstruction. It is shown to be possible to build from 200 to 300 small capacity power plants for a total output of 10,000 to 15,000 kW in areas of Italy which have the minimum necessary wind speed of 5.5 m/sec. Among the designs required for such wind electricity plants are windmill blades with variable pitch, automatic pitch control system which does not use the costly servomotor, and reversible wheels. These features enable a windmill of limited orientability to function with high efficiency. The effect of wind rose patterns, the surface area of the blade, and some possible local uses of the electricity produced by such plants are also discussed. Author

N74-15746*# Scientific Translation Service, Santa Barbara, Calif

IMPORTANCE AND PROGRESS OF WIND POWER UTILIZATION IN DENMARK



Dimitry Stein Washington NASA Feb. 1974 11 p refs Transl, into ENGLISH from Elektrizitaetswirtschaft (Frankfurt am Main), v. 41, no. 47, 5 Sep. 1942 p 390-392 (Contract NASw-2483)

(NASA-TT-F-15353) Avail: NTIS HC \$3.00 CSCL 10B

Experience derived in operating wind power systems in Denmark is described. A study is made of the efficiency of the Danish power plants.

Author

N74-15747*# Scientific Translation Service, Santa Barbara.

CHARACTERISTIC LINES (YEARLY PERMANENT LEVEL LINES) AND CHARACTERISTIC WIND VARIABLES FOR WIND ENERGY PRODUCTION

H. Pigge Washington NASA Feb. 1974 25 p refs Transl. into ENGLISH from Elektrizitaetswirtschaft (Frankfurt am Main), v. 54, no. '20, Oct. 1955 p 704-709 (Contract NASw-2483)

(NASA-TT-F-15354) Avail: NTIS HC \$3.25 CSCL 10B

Optimum design methods for wind driven electrical generating plants are presented, based on yearly permanent wind level lines for selected erection sites. Wind conditions at any site are divided into five classes, of which only a few can be exploited by a given system. General purpose design curves are given.

N74-15748*# Linguistic Systems, Inc., Cambridge, Mass.
METHOD OF CALCULATION OF ANNUAL OVERALL
EFFICIENCY OF MODERN WIND-POWER PLANTS

EFFICIENCY OF MODERN WIND-POWER PLANTS
F. D. Pigeaud Washington NASA Feb. 1974 13 p refs
Transl. into ENGLISH from Ingenieur (The Hague), v. 63, no. 47,
23 Nov. 1971 p. W137-W140
(Contract NASw-2482)

(NASA-TT-F-15310) Avail: NTIS HC \$3.00 CSCL 10B

A method of calculating the annual overall efficiency of modern wind power plants equipped with asynchronous generators is reported that takes into account the annual velocity duration curve at Den Heider, Holland. A comparison is made between variable pitch windmotor and fixed blade windmotor equipped with movable flaps. A careful calculation is recommended in view of rather small differences in efficiency for both systems.

Autho

N74-15749*# Kanner (Leo) Associates, Redwood City, Calif. PROBLEMS IN THE ELECTRICAL EQUIPMENT OF WIND POWER PLANTS

M. Kloss Washington NASA Feb. 1974 42 p refs Transl. into ENGLISH from Technik (Berlin). v. 2, Nov. 1947 p 471-479

(Contract NASw-2481)

(NASA-TT-F-15312) Avail: NTIS HC \$4.25 CSCL 10B

Problems encountered in electric installations of wind power plants are discussed. Difficulties involved necessitate close cooperation of aerodynamic and electrical engineer in implementing wind power plants for d-c and a-c currents. Examples of actual installations in Germany are presented: a present task is erection of small wind power plants for farms.

Author

N74-15750*# Scientific Translation Service, Santa Barbara, Calif.

THE LARGE SCALE WIND DRIVEN ELECTRICAL GENERATING STATION

H. Mayer Washington NASA Feb. 1974 10 p refs Transl into ENGLISH from Technik (Berlin), v. 2, no. 12, Dec. 1947 p 527-528

(Contract NASw-2483)

(NASA-TT-F-15313) Avail: NTIS HC \$3.00 CSCL 10B

Large wind power plants and their use to alleviate coal shortage in Germany are discussed. It is stipulated that there is no economic necessity for development of large scale wind power plants before possible improvements in steam power plants, such as combined heating and power plants, high pressure plants, etc. have been exhausted. A table gives comparison of costs and efficiency of wind and steam power plants.

Author

N74-16751*# Scientific Translation Service, Santa Barbara, Calif

UTILIZATION OF WIND POWER WITH WARD LEONARD TYPE CIRCUIT IN INVERTED OPERATION

A. Carrer Washington NASA Feb. 1974 13 p Transl. into ENGLISH from Elettroteonica (Italy), v. 36, 10-25 Aug. 1949 p 383-385

(Contract NASw-2483)

(NASA-TT-F-15352) Avail: NTIS HC \$3.00 CSCL 10B

An electric circuit is described comprising two direct current machines and one three-phase synchronous or an asynchronous induction machine suitable for transforming and feeding the energy from the wind into a three-phase conventional electric power network.

Author

N74-15752*# Kanner (Leo) Associates, Redwood City, Calif UTILIZATION OF WIND POWER IN AGRICULTURE IN THE USSR

D. Stein Washington NASA Feb. 1974 13 p refs Transl. into ENGLISH from Elektrizitaetswirtschaft (West Germany), v. 40. no. 4, 5 Feb. 1941 p 54-56 (Contract NASw-2481)

(NASA-TT-F-15345) Avail: NTIS HC \$3.00 CSCL 10B

Wind motors are being used in Russian agriculture for milling and pumping water. Plans call for rapid expansion of the utilization of such power plants. The extent of present utilization, problems, and forecasts are outlined.

Author

N74-15753*# Kanner (Leo) Associates, Redwood City, Calif PROGRESS IN THE UTILIZATION OF WIND POWER G. W. Meyer Washington NASA Feb. 1974 14 p refs Transl, into ENGLISH from Elektrizitaetsverwertung (Switzerland), v. 16, no. 6/7, Sep.-Oct. 1941/42 p 109-113 (Contract NASW-2481)

(NASA-TT-F-15346) Avail: NTIS HC \$3.00 CSCL 10B

Wind power continues to be of interest as a source of energy for isolated locations. In order to distribute the capital costs over many service hours, the wind motors should be able to exploit low wind speeds. Low speed wind motors can be used only for driving slow machinery. High speed wind motors to drive small dynamos are now available which are self starting at low wind speeds. Large scale wind power stations have not yet passed the experimental stage.

Author

N 74-15754*# Scientific Translation Service, Santa Berbara.

IMPORTANCE AND PROGRESS OF WIND POWER UTILIZATION IN DENMARK

Dimitry Stein Washington NASA Feb. 1974 19 p Translinto ENGLISH from Elektrizitaetswirtschaft (Frankfurt am Main) v. 41, no. 16, 20 Aug. 1942 p 370-374 (Contract NASw-2483)

(NASA-TT-F-15349) Avail: NTIS HC \$3.00 CSCL 10B

The designs of various wind power plants in Denmark are discussed. Price lists for the plants are given along with prices for direct current generators for wind power plants.

Author

N74-15755*# Kanner (Leo) Associates, Redwood City Calif MEDIUM-CAPACITY AIR MOTOR PILOT PLANT WITH HYDRAULIC ENERGY ACCUMULATION BY PUMPING

Renzo Vezzani Washington NASA Feb. 1974 72 p refs Transl, into ENGLISH from Elettrotecnica (Italy), v. 37, 15-25 Sep 1950 p 393-419

(Contract NASw-2481)

(NASA-TT-F-15299) Avail: NTIS HC \$5.75 CSCL 108

An air motor power plant is to be erected on the island of Giglio, Italy. Slow speed orientable windmill designs are replaced by high speed air motors, protected and fixed in space. The entire air motor is placed in a tubular system similar to a Ventur tube. The operation of the enclosed air motor may be regarded as similar to that of a Kaplan turbine.

Author

N74-15756*# Techtran Corp., Glen Burnie, Md. UTILIZATION OF WIND POWER

J. W. VanHeys Washington NASA Feb. 1974 11 p. refs Trensl. into ENGLISH from Elektrotech. Z. (Berlin), v. 64, no. 34 22 Aug. 1940 p 787-790 (Contract NASw-2485)

(NASA-TT-F-15300) Avail: NTIS HC \$3.00 CSCL 10B

The possible power of wind in a wind turbine is determined. From available wind measurements the wind frequency line is plotted to provide the basis for the design of a wind turbine. Favorable results are not obtained if work is continued on the previous principle of mill construction. There are only two ways of achieving adequate power: enlarging the circumference described by the vane and utilizing higher wind velocities. The latter are present at an altitude of about 200 meters above the ground. Satisfactory performance is attained with a vane length of 60 meters. Thus it is recommended that tests running at least one year be instituted with these dimensions.

N74-15757*# Scientific Translation Service, Santa Barbara,

THE DIRECT DRIVING OF SYNCHRONOUS GENERATORS BY LARGE SCALE WIND ELECTRICAL POWER GENERAT-ING PLANTS IN PARALLEL OPERATION WITH A SYN-CHRONIZING NETWORK PART 1

Max Kloss Washington NASA Feb. 1974 27 p ref Transl. into ENGLISH from Elektrotech. Z. (West Germany), v. 63, 13 Aug. 1942 p 362-367

(Contract NASw-2483)

(NASA-TT-F-15301) Avail: NTIS HC \$3.50 CSCL 108

The damped eigen oscillation of a synchronous generator connected with a fixed network is investigated. It is assumed that the generator is driven by a wind propeller wheel. The influence of the variation of the characteristic of the propeller wheel on the variation of the transient oscillatory behavior is investigated. First the wind velocity increase occurs suddenly and then in a continuous fashion. The power control measures including propeller pitch displacement are investigated for preventing overloads on the generator. The danger of resonance is pointed out. This depends on the number of propellers. The question is discussed of whether it is better to use an asynchronous generator instead of a synchronous generator. Author

N74-15758*# Kanner (Leo) Associates, Redwood City, Calif.
THE IMPORTANCE OF AND PROGRESS IN THE UTILIZATION OF WIND POWER IN DENMARK

Dimitry Stein Washington NASA Feb. 1974 17 p refs Transl. into ENGLISH from Elektrizitaetswirtschaft (Germany), v. 41, no. 15, 5 Aug. 1942 p 346-349 (Contract NASw-2481)

(NASA-TT-F-15333) Avail: NTIS HC \$3.00 CSCL 10B

Denmark was one of the first countries to turn its attention to generating electric energy from wind power, because it has to import all oil and coal it uses, and it has virtually no hydroelectric power. A large number of wind power stations were built in the early years of World War I when fuel was scarce. The total production of wind power was estimated at approximately 1.8 million kWh in 1941. The installation of wind power stations was generally considered to be a temporary measure. Author

N74-15759*# Kanner (Leo) Associates, Redwood City, Calif.
APPLICATION OF WIND POWER TO RATIONAL GENERATION OF ELECTRICITY

J. Juuls Washington NASA Feb. 1974 28 p refs Transl. into ENGLISH from Elektroteknikeren (Denmark), v. 43, 7 Aug. 1947 p 137-148

(Contract NASw-2481)

(NASA-TT-F-15334) Avail: NTIS HC \$3.50 CSCL 10B

The history and development of windmills in Denmark and elsewhere is sketched. The costs and problems of generating electricity by steam, water and wind power are compared. Pointing out that the wind is Denmark's only major natural source of power and dividing the application of wind power into an economic and a technological part, it is discussed how the Danish wind could be harnessed to supply power not only in the requisite amounts and at the lowest cost, but also under all circumstances, so as to make Denmark self-sufficient in the matter of energy.

N74-15760*# Kanner (Leo) Associates, Redwood City, Calif.
INVESTIGATION OF THE POSSIBILITIES OF USING WIND

C. Kromann and J. Juul Washington NASA Feb. 1974 11 p. Transl. into ENGLISH from Elektroteknikeren (Denmark), v. 45, 7 Dec. 1949 p. 711-714 (Contract NASw-2481)

(NASA-TT-F-15336) Avail: NTIS HC \$3.00 CSCL 10B

Kromann's critique of several of Juul's articles in Elektroteknikeren and of Jull's riposte is reported. For example, Kromann argues that it should not be expected that wind tunnel experiments, necessary as these are for finding the best vane design, will yield the same results as real conditions; Juul counters that the same efficiency can be obtained in the open air as in a wind tunnel and that, in any case, this point will be investigated in greater detail in the near future. Kromann has misgivings about building windmills on the west coast of Jylland because he fears that the force of the wind there is too variable; Juul counters that wind force measurements show that this fear is unfounded (the corresponding curves are given).

N74-15761*# Kanner (Leo) Associates, Redwood City, Calif.
AIR POWER PLANTS IN RUSSIA AND THE UNITED STATES
(FROM DIMITRY STEIN, ELEKTRIZITAETSWIRTSCH.,
VOLUME 40, NO. 16, 1941)

Washington NASA Feb. 1974 5 p. Transl. into ENGLISH from Bull. Assoc. Suiss Electriciens (Zurich), v.33, no. 1, 1942 p. 17-18

(Contract NASw-2481)

(NASA-TT-F-15338) Avail: NTIS HC \$3.00 CSCL 10A"

Various types of wind power plants in the USSR and in the USA are discussed. The VIME D-12 in Crimea, a large power plant, is described. Uses mentioned for the USA are running farm machinery, protecting pipes from corrosion due to leakage currents, and supplying power to amplifiers for telephone wires.

N74-15762*# Scientific Translation Service, Santa Barbara, Calif.

PARALLEL OPERATION OF A SYNCHRONOUS GENERATOR AND AN INFINITELY HIGH-POWERED NETWORK WHEN DRIVEN BY A HONNEF-GROSS WIND TURBINE Ludwig Linner Washington NASA Feb. 1974 14 p refs Transl. into ENGLISH from Elektrotech. Z. (West Berlin), v. 69. no. 9, Sep. 1948 p 293-296 (Contract NASW-2483)

(NASA-TT-F-15302) Avail: NTIS HC \$3.00 CSCL 10B

An infinite high powered network is described as a network whose voltage is independent of the load states of the connected machines, and whose voltage amplitude and angular velocity is always the same. The three-phase generator operating in conjunction with this network must operate at a constant rotation rate, as must the wind wheel according to the number of its poles and the frequency of the network. The variation in the power output of a wind wheel is discussed for constant rotation rate as a function of wind velocity in order to evaluate the operational characteristics of a synchronous machine. Author

N74-15763*# Scientific Translation Service, Santa Barbara, Calif.

ANTENNA TOWERS AS WIND TOWER GENERATION PLANTS

H. Pigge Washington NASA Feb. 1974 10 p refs Transl. into ENGLISH from Elektrotech. Z. (West Berlin), v. 73, no. 4, 15 Feb. 1952 p 95-96 (Contract NASw-2483)

(NASA-TT-F-15304) Avail: NTIS HC \$3.00 CSCL 108

A variety of wind power generating plants are considered to be installed on FM antenna masts. These include: Savonius rotor, horizontal axis wind wheels, multi-rotor configurations. Power levels vary between 10-20 kW for 100 meter mast heights.

N74-15764*# Kanner (Leo) Associates, Redwood City, Calif.
WIND ENERGY

G. Lacroix Washington NASA Feb. 1974 28 p refs Transi.

into ENGLISH from Tech. Mod. (Paris), v. 41, nos. 5 and 6, 1 and 15 Mar. 1949 p 77-83

(Contract NASw-2481)

(NASA-TT-F-15342) Avail: NTIS HC \$3.50 CSCL 10B

The technical and economic problems involved in the use of-wind engines as a source of power are discussed, with detailed descriptions of the operative principles behind several basic types.

Author

N74-15765*# Kanner (Leo) Associates, Redwood City, Calif.
USING LARGE WIND POWER PLANTS TO DIRECTLY DRIVE
SYNCHRONOUS GENERATORS IN PARALLEL OPERATION
WITH A GOVERNING NETWORK

Max Kloss Washington NASA Feb. 1974 19 p. Transl. into ENGLISH from Elektrotechn. Z. (West Germany), v. 63, 27 Aug. 1942 p. 388-392

(Contract NASw-2481)

(NASA-TT-F-15343) Avail: NTIS HC \$3.00 CSCL 10B

Various aspects of wind powered synchronous generators are described. The influence of the fan wheel characteristic on damping of transients is slight. Altering vane position is the only feasible method for regulating power in order to avoid overloading the generator. In designing the fan wheel, and choosing the number of vanes, the operating behavior of the generator and the danger of resonance must be considered ahead of efficiency. Practical operating characteristics of the fan wheel must be known to the electrical engineer if he is to calculate the course of events during a transient.

N74-16768*# Kanner (Leo) Associates, Redwood City, Calif. PROSPECTS FOR THE UTILIZATION OF WIND ENERGY IN CZECHOSLOVAKIA

F. Sembera Washington NASA Feb. 1974 25 p Transl. into ENGLISH from Elektrotechnicky Obzor (Czechoslovakia), v. 38, Sep. 1949 p 477-484 (Contract NASw-2481)

(NASA-TT-F-15305) Avail: NTIS HC \$3.25 CSCL 10B

Technical and economical conditions for the utilization of airstreams in Czechoslovakia are considered. The probable mean wind velocities in various districts of the country, their number and the probable daily and yearly charts at various altitudes, the most windy districts, the possibilities and extent of utilizing the airstreams by power stations equipped with prime movers with a 50 m propeller diameter and a 30-35 m high tower are invastigated and presented on the basis of many years of observation. It is determined that the power stations in

N74-15767*# Kanner (Leo) Associates, Redwood City, Calif. NEW WIND POWER STATION

E. Rogge and D. Stein Washington NASA Feb. 1974 21 p refs Transl. into ENGLISH from Elektrizitaetswirtschaft (West Germany), v. 42, no. 14, 5 Nov. 1943 p 358-363 (Contract NASw-2481)

(NASA-TT-F-15332) Avail: NTIS HC \$3.25 CSCL 10B

A wind power plant is described which was used during the fuel shortege that occurred in World War 2. Unlike ordinary wind power plants which produced usable power only at wind velocities above 4 or 5 m/s, this power plant was designed to operate over a wide range, charging its battery at low wind speeds, delivering usable power from generator and discharging battery at intermediate speeds, and delivering power and charging its batteries at high wind speeds. The result was exploitation of the wind for a larger number of hours per year and lower costs per kWh of output.

N74-15768*# Kanner (Leo) Associates, Redwood City, Calif. WIND-POWER SUPPLY FOR THE DECIMETER RANGE DIRECTIONAL RADIO SITE AT SCHOENEBERG (EIFEL) AND THE EXPERIENCE GAINED

G. Rosseler Washington NASA Feb. 1974 29 p refs Transl. into ENGLISH from Nachrichtentech. Z. (West Germany), v. 12, Jul. 1959 p 352-360

(Contract NASw-2481)

(NASA-TT-F-15337) Avail: NTIS HC \$3.50 CSCL 108

The Schoeneberg directional radio station is located far from

public power lines on a hilltop where the average wind velocity is 5.6 m/sec. The station, as first designed, required 26 kWh/day of dc power. It uses two Aligaier wind power systems, Dr. Hutter type WE/G 6, with a nominal output of 6 kW at 9 m/sec and 1 kW at 4.2 m/sec wind velocity mounted on two 10-m high tubular poles. The dc generators are differentially compounded, shunt-wound. Lead storage batteries of 110 cells and 216 Ah are used to stabilize the output and store the energy. A diesel generator system is available as an emergency system. Tests show that more than 90% of the power required for the initial unmodified communications system could probably have been supplied by the wind power system. The results were completely positive. Wind power stations are economically advantageous where it is very expensive to connect to the public power system, where adequate wind is available and especially when only a moderate amount of power is required.

N74-15769*# Scientific Translation Service, Santa Barbara, Calif.

THE UTILIZATION OF THE WIND ENERGY

Renzo Vezzeni Washington NASA Feb. 1974 11 p Transl. into ENGLISH from Elettrotecnica (Milan), v. 34, Nov. 1947 p 463-464

(Contract NASw-2483)

(NASA-TT-F-15344) Avail: NTIS HC \$3.00 CSCL 10B

Wind energy exploitation by very large wind power generating stations is discussed. This system is compared to other types of power generation.

Author

N74-15770*# Scientific Translation Service, Santa Berbara, Calif.

SMALL WIND-ELECTRICAL INSTALLATIONS FOR EX-PORT

G. R. Seidel Washington NASA Feb. 1974 11 p refs Transl into ENGLISH from Elektrotechn. Z. (West German), v. 70, no. 5, May 1949 p 158-160 (Contract NASw-2483)

(NASA-TT-F-15350) Avail: NTIS HC \$3.00 CSCL 10B

The design and operational problems are reported that are associated with wind power generating plants similar to the American wind charger. The potential market for such devices is discussed.

Author

N74-16776# Informatics, Inc., Rockville, Md. SOVIET GEOTHERMAL ELECTRIC POWER ENGINEERING, REPORT 2

V. A. Stevovich Dec. 1972 85 p. refs (Contract F44620-72-C-0053; ARPA Order 1622-3) (AD-754947; AFOSR-73-0034TR) Avail: NTIS CSCL 10/2

Information is provided on Soviet geothermal research and engineering associated with the design, construction, and maintenance of geothermal power plants and related facilities. Besides a general outline of geothermal characteristics, emphasis in this report is on Soviet geothermal research and development, including engineering data on existing power plants, as well as those under construction and in the planning stages. Other actual and potential applications of geothermal water such as for space heating, hotwater supply, mining and construction in permafrost regions, refrigeration, air conditioning, agriculture, medical and health applications, etc., are discussed.

Author (GRA)

N74-16777# Army Foreign Science and Technology Center, Charlottesville, Va.

SOME RESULTS OF TESTING OF A SOLAR WATER HEATING INSTALLATION DURING THE HEATING SEA-BON

G. Ye. Umarov, R. A. Zakhidov, and R. R. Avezov 31 Oct. 1972 4 p Transl. into ENGLISH from Gellotekhnika (USSR), no. 4, 1970 p 95-86

(AD-754628: FSTC-HT-23-1011-72) Avail: NTIS CSCL 13/1
An experimental investigation of solar water heating plant
with operating surface 2 sqm, mounted at the angle 50 degrees
with the horizon are given. The possibility and expediency of
solar energy application as a low potential heat source for the
heating pump in heating regime are described. Author (GRA)

N74-15808# Bureau of Mines, Pittsburgh, Pa. Energy Research

ANALYSES OF TARS, CHAR, GASES, AND WATER FOUND IN EFFLUENTS FROM THE SYNTHANE PROCESS Technical Progress Report

Albert J. Forney, William P. Haynes, Stanley J. Gasior, Glenn E. Johnson, and Joseph P. Strakey, Jr. Jan. 1974 12 p refs (BM-TPR-76) Avail: NTIS HC \$3.00 CSCL 07D

Extensive studies were made of the various effluents found in the synthene coal-to-gas process. Analyses were made of the waters, gases, and trace elements present in some of the streams. Analyses results show that the water effluent area needs further research.

N74-15817# Army Coating and Chemical Lab., Aberdeen Proving Ground, Md.

THERMAL-OXIDATIVE STABILITY OF AUTOMOTIVE DIESEL FUELS Interim Report

Maurice E. LePera Feb. 1973 42 p refs (DA Proj. 170-62105-A-106)

(AD-758146; CCL-321) Avail: NTIS CSCL 21/4

The thermal oxidation characteristics of diesel fuels are studied. Because of the absence of any laboratory bench-scale techniques designed to predict these fuel filter plugging and/or injector fouling tendencies, initial experimentation was directed towards developing an accelerated thermal-oxidation technique. To establish valid test conditions actual diesel fuel system temperatures were obtained from engineering and service (E and S) test programs and also monitored under road dynamometer testing. A second attempt involved the use of an ASTM-CRC fuel coker which was operated in a recycle mode to simulate the geometry of automotive diesel fuel systems. Initial experiments with this technique have revealed its capability to differentiate diesel fuel quality in terms of thermal-oxidation stability.

Author (GRA)

N74-15908 Rensselaer Polytechnic Inst., Troy, N.Y.
LONG RANGE TRENDS IN THE CHARACTER OF ELECTRIC
POWER SYSTEMS Ph.D. Thesis
Charles A. Falcone 1973 388 p

Avail: Univ. Microfilms Order No. 73-27204

Long range trends in the development of electric power systems in the United States are discussed, emphasizing the Midwestern region. The historical growth of energy consumption in the United States is examined, along with present status and near-term prospects. Demographic and societal trends are discussed, and energy and electric power consumption are projected to year 2100, based on a scenario of future American society. The fuel resources of the United States are examined, as well as current and developmental energy conversion technology. A forecast of fuel use is developed. A history of energy systems is epitomized, with particular attention to electric power systems. Alternative energy systems is included.

Dissert, Abstr.

N74-16007*# Indiana Geological Survey, Bloomington. Coal Section

APPLICATION OF ERTS-1 IMAGERY TO FRACTURE RELATED MINE SAFETY HAZARDS IN THE COAL MINING INDUSTRY Progress Report, 1 Jul. 1973 - 1 Jan. 1974

Charles E. Wier, Frank J. Wobber, Principal Investigators, Orville R. Russell, Roger V. Amato, and Thomas V. Leshendok Jan. 1974 27 p ref Prepared in cooperation with Earth Setellite Corp., Washington, D. C. ERTS (Contract NASS-21795)

(E74-10238; NASA-CR-136538) Avail: NTIS HC \$3.50 CSCL

The author has identified the following significant results. New fracture detail of indiana has been observed and mapped from ERTS-1 imagery. Studies so far indicate a close relationship between the directions of fracture traces mapped from the imagery, fractures measured on bedrock outcrops, and fractures measured in the underground mines. First hand observations and discussions with underground mine operators indicate good correlation of

mine hazard maps prepared from ERTS-1/aircraft imagery and actual roof falls. The inventory of refuse piles/slurry ponds of the coal field of Indiana has identified over 225 such sites from past mining operations. These data will serve the State Legislature in making tax decisions on coal mining which take on increased importance because of the energy crisis.

N74-16019*# Indiana Geological Survey, Bloomington.
APPLICATION OF EREP IMAGERY TO FRACTURERELATED MINE SAFETY HAZARDS AND ENVIRONMENTAL
PROBLEMS IN MINING Quarterly Progress Report, 20 Oct.
1973 - 20 Jan. 1974

Charles E. Wier, Frank J. Wobber, Roger V. Amato. and Orville R. Russell, Principal Investigators 22 Jan. 1974 14 p ref Prepared in cooperation with Earth Satellite Corp., Washington, D. C. Original contains imagery. Original photography may be purchased from the EROS Data Center, 10th and Dakota Avenue, Sioux Falls, S. D. 57198 ERTS (Contract NAS9-13358)

(E74-10258; NASA-CR-136586; OPR-3) Avail: NTIS

The author has identified the following significant results. All Skylab 2 imagery received to date has been analyzed manually and data related to fracture analysis and mined land inventories has been summarized on map-overlays. A comparison of the relative utility of the Skylab image products for fracture detection. soil tone/vegetation contrast mapping, and mined land mapping has been completed. Numerous fracture traces were detected on both color and black and white transparencies. Unique fracture trace data which will contribute to the investigator's mining hazards analysis were noted on the EREP imagery; these data could not be detected on ERTS-1 imagery or high eltitude aircraft color infrared photography. Stream segments controlled by fractures or joint systems could be identified in more detail than with ERTS-1 imagery of comparable scale. ERTS-1 mine hazards products will be modified to demonstrate the value of this additional data. Skylab images were used successfully to undate a mined land map of Indiana made in 1972. Changes in mined area as small as two acres can be identified. As the Energy Crisis increases the demand for coal, such demonstrations of the application of Skylab data to coal resources will take on new importance.

N74-16049# Geological Survey, Washington, D.C.
CLASSIFICATION OF PUBLIC LANDS VALUABLE FOR
GEOTHERMAL STEAM AND ASSOCIATED GEOTHERMAL
RESOURCES

L. H. Godwin, L. B. Halgler, R. L. Rioux, D. E. White, L. J. P. Muffler, and R. G. Wayland 1971 21 p refs (CIRC-647) Avail: NTIS HC \$3.25

The classification standards for determining which Federal lands are classifiable as geothermal steam and associated geothermal resources lands under the Geothermal Steam Act of 1970 (B4 Stat. 1566) are presented. The concept of a geothermal resources province is established for classification of lands for the purpose of retention in Federal ownership of rights to geothermal resources upon disposal of Federal lands. A geothermal resources province is defined as an area in which higher than normal temperatures are likely to occur with depth and in which there is a reasonable possibility of finding reservoir rocks that will yield steam or heated fluids to wells. The determination of a known geothermal resources area is made after careful evaluation of the available geologic, geochemical, and geophysical data and any evidence derived from nearby discoveries, competitive interests, and other indicia. Author

N74-16264# Honeywell, Inc., Minnsapolis, Minn. Systems and Research Center.

APPLICATION AND DURABILITY OF SOLAR ABSORBER COATINGS Final Report

R. E. Peterson and J. W. Ramsey Jul. 1973 50 p refs (Contract F33615-73-C-5074; AF Proj. 7360) (AD-769449; Rept-2817-3001; AFML-TR-73-167) Avail: NTIS CSCL 11/3

The suitability of solar absorber coatings for use as the

thermal power source to drive spaceborne Vuilleumier cycle cryogenic refrigerators was evaluated. The coating tested consisted of layers of A1203-Mo-A1203 (AMA) on various substrates. The coating was thermally cycled from 1500 to 1600F about 10,000 times, simulating conditions for three years in orbit. Results are discussed.

N74-16332# Bureau of Mines, Bartlesville, Okla. Energy Research Center.

ALDEHYDE AND REACTIVE ORGANIC EMISSIONS FROM MOTOR VEHICLES. PART 1: ADVANCED AUTOMOTIVE CONTROL SYSTEMS VEHICLES Final Report

Mar. 1973 92 p refs Sponsored by EPA (PB-224251/9GA; APTD-1568A-Pt-1) Avail: NTIS HC \$6.75 CSCL 138

Aldehyde and reactive organic emissions as well as carbon monoxide and oxides of nitrogen emissions from automobiles equipped with various types of advanced prototype emission control systems including both catalytic and thermal reactor type systems were measured. The aim was to characterize aldehyde and reactive organic emissions from vehicles with prototype advanced emission control systems to provide data necessary to help determine if there is a need for aldehyde and/or reactive organic motor vehicle regulations, and to determine on a preliminary basis, the effect of ambient temperature on the emission characteristics of advanced emission control systems. (Modified author abstract)

N74-16333# Bureau of Mines, Bartlesville, Okla. Energy Research Center.

ALDEHYDE AND REACTIVE ORGANIC EMISSIONS FROM MOTOR VEHICLES. PART 2: CHARACTERIZATION OF EMISSIONS FROM 1970 THROUGH 1973 MODEL VEHI-CLES Final Report

Mar. 1973 50 p refs Sponsored by EPA {PB-224252/7GA; APTD-15688-Pt-2} Avail: NTIS HC \$4.50 CSCL 13B

Aldehyde and reactive organic emissions as well as carbon monoxide and oxides of nitrogen emissions were measured from 1970 through 1973 model vehicles. The aim was to characterize such emissions and to provide data to compare exhaust hydrocarbon reactivity for exhaust from 1970 through 1973 vehicles with that of exhaust from prototype low-emission systems. (Modified author abstract)

N74-16339# Hittman Associates, Inc., Columbia, Md.
ASSESSMENT OF SO2 CONTROL ALTERNATIVES AND
IMPLEMENTATION PATTERNS FOR THE ELECTRIC
UTILITY INDUSTRY

Mar. 1973 145 p refs

(Contract OST-40)

(PB-224119/8GA; HIT-550) Avail: NTIS HC \$4.50 CSCL 138

Four cases were investigated with the computer model developed by Hittman Associates to determine the nature of implementation plans for sulfur oxide control at the regional and national levels. In 1975 demand for low sulfur fuels will have exceeded the available supply. The four cases studied will achieve compliance with the state and Federal emission regulations by 1986 (one by 1983). All are based on the timely development of solvent refined coal and the availability and utilization of alternative stack gas cleaning and control processes. Control alternatives are summarized and discussed including nuclear power and other advanced energy conversion systems such as hydroelectric and geothermal.

N74-16424# Joint Publications Research Service, Arlington, Va.

EXPERIMENTAL RESEARCH ON MODEL MHD GENERA-TOR U-02 (STAGE 2), SCIENTIFIC AND TECHNICAL REPORT 17/73

11 Jan. 1974 305 p refs Transl into ENGLISH of the book "Eksperimentalnyye Issledovaniya Modelnoy Energeticheskoy MGD Ustanovke U-02 (2 Etap), Nauchno-Tekhnicheskiy Otchet 17/73" Moscow, May 1973 305 p (JPRS-60972) Avail: NTIS HC \$17.25

The basic results are presented of stage 2 of research on a model combined MHD power plant (the U-02 installation). The research was conducted in order to investigate the basic physical processes that take place in parts of the open-cycle MHD generator.

N74-16483# Pratt and Whitney Aircraft, West Palm Beach,

INFLUENCE OF FUELS AND LUBRICANTS ON TURBINE ENGINE DESIGN AND PERFORMANCE, FUEL AND LUBRICANT ANALYSES Final Technical Report, 30 Mar. 1971 - 30 Mar. 1973

Richard L. Bucknell Wright-Patterson AFB, Ohio AFAPL Jun. 1973 273 p

(Contract -F33615-71-C-1470; AF Proj. 3048)

(AD-769309; PWA-FR-5673; AFAPL-TR-73-52-Vol-2) Avail: NTIS CSCL 21/4

An analytical study was conducted to determine the requirements for future fuels and lubricants research based on design studies of a high Mach number afterburning turbojet and a higher Mach number advanced multicycle turboramjet. Fuel and lubrication systems were defined, and computer models were developed for their thermal analyses. Fuel and lubricant stream temperature profiles were computed, and the effects of design modifications on these temperatures were evaluated. Fuel and lubricant temperatures were calculated for baseline missions, for steady-state flight envelope points, for alternate aircraft/engine interface fuel temperatures, and for transient maneuvers. (Modified author abstract)

N74-16493*# General Electric Co., Cincinnati, Ohio. Flight Propulsion Div.

HYDROGEN-METHANE FUEL CONTROL SYSTEMS FOR TURBOJET ENGINES Final Report

J. S. Goldsmith and G. W. Bennett Oct. 1973 162 p refs

J. S. Goldsmith and G. W. Bennett Oct. 1973 162 p refs (Contract NAS3-14319)

(NASA-CR-121247; R74AEG153; TM-73-489) Avail: NTIS HC \$10.25 CSCL 21E

Design, development, and test of a fuel conditioning and control system utilizing liquid methane (natural gas) and liquid hydrogen fuels for operation of a J85 jet engine were performed. The experimental program evaluated the stability and response of an engine fuel control employing liquid pumping of cryogenic fuels, gasification of the fuels at supercritical pressure, and gaseous metering and control. Acceptably stable and responsive control of the engine was demonstrated throughout the sea level power range for liquid gas fuel and up to 88 percent engine speed using liquid hydrogen fuel.

Author

N74-16513# Little (Arthur D.), Inc., Cambridge, Mass. Engineering Sciences

ENERGY CONSERVATION WITH SOLAR CLIMATE CONTROL

Peter E. Glaser 14 Nov. 1973 9 p Presented to Subcomm. on Energy of the Comm. on Sci. and Astronaut., US House of Representatives, Washington, 14 Nov. 1973

Avail: NTIS HC \$3.00.

The use of solar energy for climate control is discussed, with emphasis on solar heating and cooling of buildings. Government/industry relations are discussed in terms of taking action and supplying the market for solar climate control systems. The components of these systems are listed.

K.M.M.

N74-16514# Little (Arthur D.), Inc., Cambridge, Mass. A NEW VIEW OF SOLAR ENERGY

Peter E. Glaser and James E. Murphy 1971 12 p refs Presented at Intersoc. Energy Conversion Eng. Conf., Boston, 3-6 Aug. 1971

Avail: NTIS HC \$3.00

The use of solar energy as a comprehensive national energy policy is discussed in terms of its social, economic, and environmental effects. Also considered are the nature of solar energy, practical considerations, and research needs. K.M.M.

N74-16620# Bureau of Mines, Pittsburgh, Pa. Energy Research Center

AN ECONOMIC EVALUATION OF MHD-STEAM POWER-PLANTS EMPLOYING COAL GASIFICATION

P. D. Bergman, K. D. Plants, J. J. Demeter, and D. Bienstock 1973 37 p. refs

(BM-RI-7796) Avail: NTIS HC \$4.00

To assess the efficacy and economics of producing power from coal, four open-cycle magnetohydrodynamic (MHD) processing schemes were selected for study. Each involved a different mode of coal combustion and level of gas cleanliness. The options considered were: (1) coal burned in a slagging combustor; (2) suspension gasification with slag removal prior to combustion; (3) parallel cyclone combustors, one operating fuel rich and the other operating with excess air; and (4) suspension gasification by the hot exhaust gases from the MHD duct with ash removed prior to combustion. Option 1 has the highest ash content in the combustion plasma and as a result would have the greatest operational difficulties associated with it. Options 2 and 4 have the cleanest MHD combustion plasma. For coal priced at \$4/ton, the power generating cost of Option 4: 11.78 mills/kW-hr, is the highest, with Option 1, at 9.04 mills/kW-hr the lowest. These costs may be compared with a conventional power cost of 9.92 mills/kW-hr for the late seventies. Capital costs of three of the four options were competitive with those of conventional thermal power plants employing stack gas SO2 cleanup systems. Option 2 has the most favorable combination of operating characteristics and power cost. It was concluded that a clean, high-temperature working fluid can probably be produced from coal without leading to depressed system efficiencies and exorbitant capital cost.

Author

N74-16627# National Environmental Research Center, Research Triangle Park, N.C. Control Systems Lab.

PROCEEDINGS, COAL COMBUSTION SEMINAR

Robert E. Hall and David W. Pershing Sep. 1973 305 p refs Seminar held at Res. Triangle Park. N. C., 19-20 Jun. 1973 (PB-224210/5GA; EPA-650/2-73-021) Avail: NTIS HC \$7.00 CSCL 218

The proceedings document the 10 presentations made during the Seminar, which dealt with subjects related to EPA's research and development activities for control of air pollutant emissions from the combustion of pulverized coal. The Seminar was divided in two parts: participating in the portion on fundamental research were Rockwell International's Rocketdyne Division, KVB Engineering, Inc. and Southern California Edison Co., EPA Holland's International Flame Research Foundation, and Jet Propulsion Laboratory; and taking part in the portion on pilot- and full-scale tests were Babcock and Wilcox (Alliance Research Center), U.S. Bureau of Mines, Esso Research and Engineering Co., Combustion Engineering, Inc., and Tennessee Valley Authority. Purpose of the Seminar was to provide contractors and industrial representatives with the latest information on coal combustion research.

GRA

N74-18641 Committee on Interior and Insular Affairs (U. S.

A BIBLIOGRAPHY OF NON-TECHNICAL LITERATURE ON ENERGY

Flora Dean, comp. Washington GPO 1971 104 p refs Presented to Comm. on Interior and Insular Affairs, 92d Congr., 1st Sess., 5 Nov. 1971 Prepared by Library of Congr. Avail: Comm. on Interior and Insular Affairs

A bibliography of non-technical literature on energy sources and problems was prepared for the Committee on Interior and Insular Affairs of the United States Senate. The reports cover the period of time from 1 July 1969 to 1 July 1971. The subjects covered include the following: (1) national energy goals, (2) energy policy issues, (3) projections for future demands, (4) resource base for all energy sources, (5) management of federally owned resources, (6) production of fuels, (7) transportation of energy and fuels, (8) utilization (including conservation measures), and (9) environmental effects (relation of environmental policy to energy policy).

N74-16642 Committee on Interior and Insular Affairs, (U. S. Senate)

A BIBLIOGRAPHY OF CONGRESSIONAL PUBLICATIONS ON ENERGY FROM THE 89TH CONGRESS TO 1 JULY 1971

Dana C. Ellingen, comp. and William E. Towsey, Jr., comp. Washington GPO 1971 63 p refs Presented to Comm. on Interior and Insular Affairs, 92d Congr., 1st Sess., 5 Nov. 1971 Avail: Comm. on Interior and Insular Affairs

A bibliography of Congressional Publications on Energy Resources and Requirements is presented. The documents cover the period of time from 1 January 1965 to 30 June, 1969. The subjects included in the bibliography are: (1) national energy goals, (2) energy policy issues, (3) projections of future demands, (4) resource base for all types of energy sources, (5) management of federally owned resources, (6) production of fuels (including storage). (7) transportation of energy and fuels, (8) utilization (including conservation measures), (9) environmental effects, (10) research and development of resources, and (11) changing and improving regulatory practices.

N74-16651# Denver Univ., Colo. Petroleum Economics Inst. BALANCING SUPPLY AND DEMAND FOR ENERGY IN THE UNITED STATES

1972 166 p refs Avail: NTIS HC \$10.50

The proceedings of a conference on the problem of balancing supply and demand for energy in the United States are presented. The time span considered is from 1972 to 1985. The subjects discussed are: (1) U.S. energy demands based on population and economic growth. (2) government policies, national objectives, and the energy industries, (3) long run cost trends for energy sources, and (4) supply and demand aspects of oil, natural gas, coal, electricity, nuclear fuels, and other energy forms. One paper is directed toward the environmental protection and long run supply of crude oil in the United States. For individual titles, see N74-16652 through N74-16661.

N74-16652 Gonzalez (Richard J.), Houston, Tex.
FUTURE UNITED STATES POPULATION, ECONOMIC.
GROWTH, AND ENERGY DEMANDS
Richard J. Gonzalez // Denver Univ. Balancing Supply and

Richard J. Gonzalez In Denver Univ. Balancing Supply and Demand for Energy in the US 1972 p 1-8

The impact of United States population and economic growth on energy demands is discussed. The need for reasonably rational analyses based on correct information and on realistic assumptions with respect to the future energy requirements is stressed. The subjects considered are: (1) the outlook for U.S. population, (2) the potential for U.S economic growth, (3) probable U.S. energy requirements, and (4) perspective on long term energy problems. The author concludes that the future welfare of mankind requires that energy problems receive the best possible rational study as the basis for intelligent decisions about all policies and actions that affect energy availability, cost, and use.

Author

N74-16653 Stanford Research Inst., Mento Park, Calif. Energy and Resources Economics.

GOVERNMENT, POLICIES, NATIONAL OBJECTIVES, AND THE ENERGY INDUSTRIES

Sherman H. Clark In Denver Univ. Balancing Supply and Demand for Energy in the US 1972 p 9-27 refs

The requirements for the development of a national policy on energy sources and utilization are discussed. The economic factors which influence the availability of natural gas and petroleum are analyzed. The impact of energy availability on the national goals of economic growth and employment is examined. The most immediate issues to be resolved are identified as oil and gas pricing and the security of the supply of these resources. Tables of data are included to show: (1) free world oil production from 1970 to 1990. (2) energy demands and oil imports from oil producing and exporting countries, (3) the importance of offshore oil imports, and (4) U.S. energy consumption patterns for 1968.

N74-16654 First National City Bank, New York.

CAPITAL REQUIREMENTS OF THE ENERGY INDUSTRIES

Edward Symonds In Denver Univ. Balancing Supply and Demand for Energy in the US 1972 p 29-37

The economic factors which influence the investments which should be made in developing natural resources for energy purposes are discussed. Capital outlays for the energy industries of the U.S. involving electricity, oil, gas and other are tabulated for 1970 and estimated for 1980. A similar tabulation is presented for nations of the non-Communist world. Energy demands for the U.S. and non-Communist countries from 1960 to 1980 are analyzed. Factors, other than economic which influence the amounts and types of energy available are examined.

N74-16655 Massachusetts Inst. of Tech., Cambridge. Dept. of Economics.

LONG RUN COST TRENDS: PERSIAN GULF AND UNITED STATES

M. A. Adelman In Deriver Univ. Balancing Supply and Dernard for Energy in the US 1972 p 39-72 refs

The production costs of crude oil and natural gas in the U.S. are compared with those for the Persian Gulf nations. A theory of petroleum production costs is presented to show the relationship between production, development, and exploration of petroleum supplies. The effect of changing sources of reserves on the development costs of new petroleum resources is analyzed. The expected supply from the North Shore Alaska petroleum field is reported. Tables of data are included to show the following: (1) development investment in Persian Gulf petroleum, (2) cost projection of Persian Gulf resources from 1965 to 1969, (3) exploration activity and expenditures in North American petroleum development from 1965 to 1970, and (4) significant discoveries of oil and gas from 1945 to 1964.

N74-16656 Texas Univ., Austin. College of Social and Behavioral Sciences.

BALANCING THE DEMAND AND SUPPLY OF OIL

James W. McKie. In Denver Univ. Balancing Supply and Demand for Energy in the US 1972 p. 73-90 refs.

The economic factors which influence the supply and demand of crude oil in the U.S. are discussed. Estimates are made of the projected availability of petroleum from domestic sources through the year 1980. The availability of petroleum supplies based on the predictions of exploration and development is analyzed. Tables of data are provided to show the following: (1) projections of the oil supply-demand balance from 1980 to 1985, and (2) estimates of domestic U.S. production in 1975, 1980, and 1985. The need for a Federal energy policy is stressed and approaches to such a policy are submitted.

Author

N74-16657 North Carolina State Univ., Raleigh. BALANCING THE SUPPLY AND DEMAND FOR NATURAL GAS

Edward W. Erickson and Robert M. Spann In Denver Univ. Balancing Supply and Demand for Energy in the US 1972 p 91-106 refs

An analysis of the supply and demand factors involving natural gas as an energy source was conducted. The need for a workable policy for natural gas production and use is stressed. Factors which have contributed to the lessening supply are reported. Measures for improving the situation are proposed. Tables of data are included to show: (1) predicted and actual discoveries of crude oil and natural gas from 1953 to 1967. (2) trends in well head price of natural gas compared with quantity of natural gas discoveries, (3) effects of oil and gas prices and other variables on oil and gas discoveries, and (4) projections of non-associated natural gas prices and required discoveries for the period of 1972 to 1985.

N74-16658 Peabody Coal Co., St. Louis, Mo. BALANCING THE DEMAND AND SUPPLY OF COAL. Thomas M. Lydon In Denver Univ. Balancing Supply and Demand

for Energy in the US 1972 p 107-114

An analysis of coal supplies for energy applications was conducted to determine methods of obtaining a balance between supply and demand. The problems faced by the coal producer and those of the coal user are examined to show the environmental impacts. Methods for meeting the energy shortages through improved coal utilization are proposed. A table is included to show the total demand for U.S. coal (including exports). Author

N74-18659 Kerr-McGee Corp., Oklehoma City, BALANCING THE DEMAND AND SUPPLY OF ELECTRICITY AND NUCLEAR FUELS

Dean A. McGee In Denver Univ. Belancing Supply and Demand for Energy in the US 1972 p 115-130 refs

The problem of obtaining a balance between demand and supply of nuclear fuel for electric power generation in the United States to 1985 is discussed. It is stated that the balance will depend on economic rather than geologic considerations. Proven reserves of uranium and the quality of the resource base that offers potential for new discoveries assure that uranium ore deposits available for development and production will be sufficient to meet demand. Projections are made in the growth of the nuclear powered electric energy field. The operation of the nuclear reactors and the nuclear fuel cycle involved in electric power production are described. Charts are included to show the projected utilization of nuclear fuels and the mix of coal, hydro, gas, thermal, and nuclear fuels to the year 2000.

Author

N74-16660 Sun Oil Co., Philadelphia, Pa. Economics and Industry Affairs.

BALANCING THE DEMAND AND SUPPLY OF OTHER ENERGY FORMS

James S. Cross In Denver Univ. Balancing Supply and Demand for Energy in the US 1972 p 131-143

Methods for balancing the demand and supply of various energy forms are discussed. A graphic presentation of the U.S. energy balance for the five year periods beginning in 1970 and extending to 1985 is developed. The economic and environmental factors involved in using hydroelectric, geothermal, synthetic gas, and tar sands for energy sources are examined. Other sources of energy from agricultural products and tidal energy are analyzed. The potential for using more of the energy available from the sun is proposed.

N74-16661 Texas Univ., Austin. ENVIRONMENTAL PROTECTION AND LONG RUN SUPPLY OF CRUDE OIL IN THE UNITED STATES States Managed & Description States

Stephen L. McDonald /n Denver Univ. Balancing Supply and Demand for Energy in the US 1972 p 145-158 refs

A study was conducted to determine the effects of energy conversion on the environment. The effects of various types of energy sources were examined and examples of legislation to reduce environmental pollution are presented. The subjects discussed are: (1) protection of the environment and national income, (2) allocation of environmental protection costs. (3) environmental protection problems in the petroleum industry, and (4) progress in developing new environmental protection techniques.

N74-18662# Committee on Interior and Insular Affairs (U. S. Senate).

ENERGY EMERGENCY LEGISLATION, PART 1

Washington GPO 1973 364 p refs Hearing on S. 2589 before Comm. on Interior and Insular Affairs, 93d Congr., 1st Sess., 8 Nov. 1973

Avail: SOD HC \$2.35

A Congressional hearing concerning emergency energy legislation was conducted. The purpose of the legislation was as follows: (1) to declare by congressional action a nationwide energy emergency, (2) to authorize the president to immediately undertake specific actions to conserve scarce fuels and increase

supply, (3) to initiate the development of local, state, national, and international contingency plans, and (4) to assure the continuation of vital public services.

P.N.F.

N74-16664# Committee on Interior and Insular Affairs (U. S. Senate)

FUEL SHORTAGES, PART 1

Washington GPO 1973 530 p refs Hearings before Comm. on Interior and Insular Affairs, 93d Congr., 1st Sess., 1 Feb. 1973 2 Vol.

Avail: Comm. on Interior and Insular Affairs

A Congressional hearing was conducted to investigate the factors contributing to current shortages of natural gas, residual oil, and other refined products. Testimony from the Senators of various states is submitted to show the extent of the energy crisis and their understanding of the basic causes. Communications from various segments of the economy are included to define the scope of the shortages and the impact on industry, public utilities, and home use. Tables of data are developed to show the resources available and the anticipated problem areas. The actions to be taken by Federal organizations to improve the energy situation are recommended.

P.N.F.

N74-16665# Committee on Interior and Insular Affairs (U. S. Senate)

FUEL SHORTAGES, PART 2

Washington GPO 1973 270 p refs Hearings before Comm. on Interior and Insular Affairs, 93d Congr., 1st Sess., 22 Feb. 1973 2 Vol.

Avail: Comm. on Interior and Insular Affairs, 93d Congr., 1st. Sess., 22 Feb. 1973

N74-16666# Committee on Interior and Insular Affairs (U. S. Senate)

THE EVOLUTION AND DYNAMICS OF NATIONAL GOALS IN THE UNITED STATES

Franklin P. Huddle Washington GPO 1971 66 p refs Presented to Comm. on Interior and Insular Affairs, 92d Congr., 1st Sess., 16 Aug. 1971 Prepared by Library of Congr.

Avail: Comm. on Interior and Insular Affairs

A Congressional hearing was conducted to examine the evolution and dynamics of the National Goals in the U.S. The study reviews the history of national goal formation beginning with the Preamble to the Constitution of the United States. The process and specifics of national goal formation during several administrations are described. The background information provided by the study is considered useful in identifying the role of the energy policy in the implementation of national goals. The subjects contained in the study are: (1) historical evolution of the goals of the U.S., (2) maturation of early constitutional goals. (3) succession of national goals in the past half-century, (4) the interaction of science and technology with national goals, and (5) recent aftermpts to chart new goals for America. P.N.F.

N74-16687# Committee on Interior and Insular Affairs (U. S. Senate).

A REVIEW OF ENERGY ISSUES AND THE 91ST CON-GRESS

Washington GPO 29 Jan. 1971 41 p refs Presented to Comm. on Interior and Insular Affairs, 92d Congr., 1st Sess. 15 Dec. 1970 Prepared by Library of Congr. Avail: Comm. on Interior and Insular Affairs

A review of the energy crisis issues considered by the U.S. Congress was conducted. The purpose of the review is to examine the interrelationships between energy supply, the environment, resource conservation, economic growth, and the attainment of important national goals. The policy issues in the energy field involve the following: (1) oil imports, (2) trans-Alaska pipeline. (3) outer continental shelf, (4) natural gas supply, (5) shortages and movement toward an overall energy policy, (6) electric power generation and transmission, and (7) nuclear energy development and environmental effects.

N74-16668# Committee on Interior and Insular Affairs (U. S.

COMPACT TO CONSERVE OIL AND GAS

Washington GPO 1971 30 p Hearing on S. J. Res. 72 before Comm. on Interior and Insular Affairs, 93d Congr., 1st Sess., 17 Jun. 1971

Avail: Subcomm. on Minerals, and Fuels

A Congressional hearing concerning an extension of the Interstate Compact to Conserve Oil and Gas was conducted. The purpose of the compact is to prevent physical waste of natural resources within the states which ratify the compact. The states are expected to accomplish the legislation to prevent the following: (1) operation of any oil well with an inefficient gas-oil ratio, (2) drowning with water of any stratum capable of producing oil or gas, or both oil and gas, in paying quantities, (3) avoidable escape into the open air or the wasteful burning of gas from a natural gas well, (4) the creation of unnecessary fire hazards. (5) the drilling, equipping, locating, spacing, or operating a well or wells so as to bring about physical waste of reservoir energy in producing wells.

N74-16669# Committee on Interior and Insular Affairs (U. S. Senate)

FEDERAL ENERGY ORGANIZATION: A STAFF ANALYSIS Washington GPO 1973 66 p refs Presented to Comm. on Interior and Insular Affairs; 93d Congr., 1st Sess., 5 Mar. 1973 Avail: Comm. on Interior and Insular Affairs

A Congressional staff analysis was prepared to provide information on the significance of energy organization and the present organization structure for handling energy matters. A history of the Federal Energy Organization is provided and the functions in various areas of resources management are defined. The deficiencies in existing Federal Energy Organizations are analyzed. A tabulation of the Federal Energy Agencies is provided. Summaries of proposed Federal reorganization for energy are developed. P.N.F.

N74-16670# , Committee on Interior and Insular Affairs (U. S. Senate)

GEOTHERMAL ENERGY RESOURCES AND RESEARCH Washington GPO 1972 472 p refs Hearings before Comm. on Interior and Insular Affairs, 92d Congr., 2d Sess., 15 and 22 Jun. 1972

Avail: SOD HC \$2.75

A Congressional hearing was conducted to discuss the role of geothermal energy resources in the nation's economy. The proposed costs of research and development projects for geothermal energy exploitation are discussed. The research projects to be conducted are defined. Information is provided on the subjects of: (1) assessment of geothermal energy resources, (2) a theoretical study of geothermal energy extraction, (3) classification of public lands valuable geothermal steam and associated geothermal resources, and (4) environmental impact statement for the geothermal leasing program.

P.N.F.

N74-16673# RAND Corp., Senta Monica, Calif.
A METHODOLOGY FOR PROJECTING THE ELECTRICAL ENERGY DEMAND OF THE MANUFACTURING SECTOR IN CALIFORNIA

W. E. Mooz and C. C. Mow Jan. 1973 75 p refs (Grant NSF GI-44)

(R-991-NSF/CSRA) Avail: NTIS HC \$5.75

The methodology reported is one part of a total electrical energy demand estimating methodology developed for use in California. Separate methodologies were developed for each sector of the economy, which comprises the following: residential; industrial (consisting of manufacturing and mining); commercial; governmental; and agricultural. In place of quantitative, determinant-based relationships, the methodology described relies on the projection of individual trends in electrical energy use for each of 20 manufacturing industries identified by the Standard Industrial Code, Data on these trends are presented, and reasonable projections are suggested. In addition, the roles of each of the determinants of electrical energy use are explored qualitatively

for the benefit of analysts required to apply judgment in selecting inputs for the methodology. Author

N74-16674# RAND Corp., Santa Monica, Calif.
FUEL FROM ORGANIC MATTER: POSSIBILITIES FOR THE
STATE OF CALIFORNIA

Doris J. Dugas Oct. 1973 19 p refs (P-5107) Avail: NTIS HC \$3.00

The amounts of organic material that might be made available for energy purposes in the State of California, its potential fuel value, and the estimated cost are investigated. Sources of organic material that are considered are: (1) crops grown specifically for energy, (2) natural forests, and (3) wastes from the urban, agricultural, and industrial sectors. Preliminary results indicate that about 19 percent of California's gas supply could be derived from organic sources.

Author

N74-16676# RAND Corp., Santa Monica, Calif.
THE SOVIET UNION, THE MIDDLE EAST, AND THE EVOLVING WORLD ENERGY SITUATION

Arnold L. Horelick Oct. 1973 10 p ref Presented at Conf. on Choices for Europe and Am. The Middle East and the Energy Situation, 1973-1985, Ditchley Park, Engl.; sponsored by Ditchley Found., Intern. Inst. for Strategic Studies, Middle East Inst., and the World Peace Found.

(P-5109) Avail: NTIS HC \$3.00

The U.S.S.R.'s position on the world oil crisis is discussed with special attention given to the limits of Soviet influence in global politics and a Soviet-preferred future world energy scenario.

K.M.M.

N74-16676# RAND Corp., Santa Monica, Calif.
MEASURES FOR SLOWING GROWTH IN ELECTRICITY
CONSUMPTION

Ronald D. Doctor Apr. 1973 16 p refs Presented at Hearing of Subcomm. on State Elec. Energy Policy of Calif. State Assembly Comm. on Planning and Land Use, Sacramento, 23 Feb. 1973 Sponsored by NSF.

(P-5017) Avail: NTIS HC \$3.00

Methods for reducing the growth rate of electricity demand are examined. The greatest opportunities for slowing growth were found in the residential and commercial sectors. Measures for conserving energy are presented, such as improved insulation, solar energy, gas substitution, increased air conditioning efficiency, decreased electricity for lighting, and low energy buildings.

J.A.M

N74-16677# RAND Corp., Santa Monica, Calif.
ENERGY CONSERVATION IN PUBLIC AND COMMERICAL
BUILDINGS

Richard G. Salter and Deane N. Morris Oct. 1973 61 p Sponsored by NSF

(P-5093) Avail: NTIS HC \$5.25

A discussion is presented of the preliminary results of an ongoing study of the use of energy in public and commercial buildings. The effects of building location, design and operation alternatives are developed, together with initial estimates of the conservation potential in the sector.

Author

N74-16679# RAND Corp., Santa Monica, Calif, A METHODOLOGY FOR PROJECTING THE ELECTRICAL ENERGY DEMAND OF THE COMMERCIAL SECTOR IN CALIFORNIA

W. E. Mooz and C. C. Mow Mar. 1973 46 p refs (Grant NSF GI-44)

(R-1106-NSF/CSRA) Avail: NTIS HC \$4.50

Methodology was developed for the electrical energy demand of commercial sectors, mining portion of the industrial sector, and other small sectors of California economy. Methodologies were based upon the output of the sector, measured in terms of dollars of value added or dollars of contributed to gross state product; on the electrical energy intensiveness of the sectors, and upon the price of electricity and natural gas. In small sectors, such as agriculture and railroads, the use of electricity was found to be either constant or the result of fairly simple forces. J.A.M.

N74-16680# RAND Corp., Santa Monica, Calif.
CALIFORNIA'S ELECTRICITY QUANDARY. 3: SLOWING
THE GROWTH RATE

R. D. Doctor, K. P. Anderson, M. B. Berman, S. H. Dole, M. J. Hammer, P. T. McClure, and C. B. Smith Sep. 1972 158 p refs

(Grant NSF GI-44)

(R-1116-NSF/CSA) Avail: NTIS HC \$10.00

Results are presented of one part of a broad study effort on the underlying cause of the conflict between energy and the environment-the rapid increase in demand for energy in all its forms-and on the implications of this conflict for governmental policymaking. The objectives are: (1) to examine the need for new state policies that would slow the growth of electricity demand: (2) to estimate the potential effectiveness of policies designed to slow the growth rate; and (3) to evaluate the potentially important side effects of slowed electricity growth.

Author

N74-18684# Committee on Science and Astronautics (U. S. House).

GEOTHERMAL ENERGY

Washington GPO 1973 390 p refs Hearings on HR 8628 and H.R. 9658 before Comm. on Sci. and Astronaut., 93d Congr., 1st Sess., No. 21, 11, 13, and 18 Sep. 1973 Avail: Subcomm. on Energy

The hearings are reported concerning the economic and technological feasibility of developing geothermal energy sources. Two bills are presented and discussed which would establish a Geothermal Energy Development Corporation to construct two or more geothermal demonstration installations and to develop alternate technology for generating steam and electric power from geothermal sources. Other topics include: the state of geothermal energy technology; environmental problems; the status of R and D activities; and international and foreign policy considerations.

N74-16690# Massachusetts Inst. of Tech., Cambridge. Energy . Lab.

MODELING OF ELECTRIC POWER DEMAND GROWTH Final Report

J. B. Woodard, Jr., M. L. Baughman, and F. C. Schweppe Feb. 1973 20 p. refs. Presented at MIT Conf. on Energy: Demand, Conservation and Institutional Probl., 12-15 Feb. 1973 (Grant NSF GI-32874)

(PB-224O45/5GA: MIT-EL-73-015) Avail: NTIS HC \$3.00 CSCL 10B

The paper describes a modeling approach, presently under development, directed at the growth in demand for electric power. The emphasis is to develop a mathematical model which can be used for the analysis of detailed questions, such as: How will changes in air conditioning power demand, electric rate structures, population, etc., affect the daily load shapes (MW vs time) as well as the peak power and the overall electric energy consumption. Detailed answers to these questions are needed for generation planning of capacity and plant mix (nuclear, fossil, and pumped-hydro) as well as for the evaluation of the resulting environmental and economic impacts. These issues require detailed models combining economic models with engineering considerations affecting the dynamics of load behavior. Modeling of this kind can be limited by the data available, and an important aspect of this effort is to identify the data required for a detailed understanding of the load. The approach to be employed is a combination of state dynamic models driven by stochastic processes with economic models.

N74-16691# Army War Coll., Carlisle Barracks, Pa.
UNITED STATES PETROLEUM SITUATION THROUGH
1980

Robert W. Huebner 14 Mar. 1973 54 p refs (AD-781576) Avail: NTIS CSCL 10/2

The current and projected United States petroleum and natural gas requirements through 1980 are examined. These two resources account for three-fourths of all the energy consumed in the United States. The unprecedented rate at which they are being consumed has caused an imbalance between demand and

supply and presents the Nation with an energy problem of serious and growing proportions. Domestic production is now unable to supply the needs of some consumer sectors and shortages of certain fuels exist. During the next three to five years, a further deterioration of the domestic supply position is anticipated and a sharp increase in imports is projected. The long lead times required to provide new domestic supplies make this development virtually certain. The United States also faces a serious balance of trade deficit as a result of our growing need for imports. In short, our petroleum position will become more severe in the longer term if present trends and policies continue.

Author (GRA)

N74-16697# Army War Coll., Carliste Barracks, Pa.
THE US ENERGY CRISIS, THE MULTINATIONAL DIL
CORPORATIONS AND THEIR RELATIONSHIP TO U.S.
FOREIGN POLICY IN THE MIDDLE EAST
John G. Pappageorge 28 Feb. 1973 59 p refs

(AD-760868) Avail: NTIS CSCL 05/3

America's current energy crisis consists of a growing dependence on foreign oil brought about by a continuing diminution in known domestic petroleum reserves and aggravated by a host of domestic anomalies that cry out for some sort of unified energy policy. Yet any steps taken domestically will have far reaching international effects, particularly in the Middle East. Eight giant corporations (five of them American) discover and pump most of the oil out of the ground in the producing countries. Hence, they have a powerful influence in the Middle East and are a contributing factor in the stability of that politically volatile part of the world.

N74-16756*# Linguistic Systems, Inc., Cambridge, Mass.

EXPLDITATION OF WIND ENERGY

Hans Christaller Washington NASA Feb. 1974 12 p refs Transl. into ENGLISH from Elektrizitaetswirtschaft (West Germany), v. 50. no. 11, Nov. 1951 p 320-322 (Contract NASw-2482)

(NASA-TT-F-15309) Avail: NTIS HC \$3.00 CSCL 10B

The utilization of wind power is discussed. A measurement is made of the energy available from air currents. Wind turbulence is calculated together with the average power. The structural features of windmills are discussed in relation to possible industrial applications.

Author

N74-16757*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

WIND ENERGY CONVERSION SYSTEMS

Jospeh M. Savino, ed. Dec. 1973 270 p refs Workshop Proc. held at Washington, D. C., 11-13 Jun. 1973 (Grant NSF AG-465)

(NASA-TM-X-69786; NSF/RA/W-73-006) Avail: NTIS HC \$15.50 CSCL 10B

Economic feasibilities and energy conversion efficiencies are considered for various alternative energy sources that utilize wind forces. For individual titles, see N74-16758 through N74-16799.

N74-16768* Allis-Chalmers Mfg. Co., York, Pa.

SMITH-PUTNAM WIND TURBINE EXPERIMENT
Beauchamp E. Smith In NASA. Lewis Res. Center Wind
Energy Conversion Systems. Dec. 1973 p 5-7

CSCL 10B

A brief outline of the many problems encountered during testing of a wind turbine generator prototype unit is given. Its feasibility was demonstrated by the generation of electricity in commercial quantities with delivery to a utility transmission network. The experiment was terminated after blade failure occurred.

N74-16759* Allis-Chalmers Mfg. Co., York, Pa.
MOTION PICTURE HISTORY OF THE ERECTION AND
OPERATION OF THE SMITH-PUTNAM WIND GENERA-

Carl Wilcox In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 8-10 CSCL 10B

A color movie presentation is discussed that presents the various stages in assemblying the major subsystems of a synchronous wind generator, such as installing the rotor blades and the rotating platform at the top of the tower. In addition scenes are shown of the wind generator in operation. Author

N74-16760* Federal Power Commission, Washington, D.C. PERCY THOMAS WIND GENERATOR DESIGNS
Charles W. Lines In NASA, Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 11-18

CSCL 10B

The technical and economic feasibilities of constructing a windpowered generator with a capacity of 2,000 to 4,000 kilowatt are considered. Possible benefits of an integrated wind generating electric energy source in an electric utility network are elaborated. Applications of a windpowered waterpump, including its use as a pumping source for hydroelectric pump storage operations, are also mentioned. It is concluded that the greatest potential of the wind generator is to generate heat directly and not conversion to electricity and then to heat.

N74-16761* Stuttgart Univ. (West Germany).
PAST DEVELOPMENTS OF LARGE WIND GENERATORS
IN EUROPE

Ulrich Hutter In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 19-22

CSCL 10F

Physical size, maximum power output, and other characteristics of various windpower systems are shown in picture form.

N74-16762* Tompkin (Joseph), Salem. Ore.
INTRODUCTION TO VOIGT'S WIND POWER PLANT
Joseph Tompkin In NASA. Lewis Res. Center Wind Energy
Conversion Systems Dec. 1973 p 23-26

CSCL 10B

The design and operation of a 100 kilowatt wind driven generator are reported. Its high speed three-bladed turbine operates at a height of 50 meters. Blades are rigidly connected to the hub and turbine revolutions change linearly with wind velocity, maintaining a constant speed ratio of blade tip velocity to wind velocity over the full predetermined wind range. Three generators installed in the gondola generate either dc or ac current, Based on local wind conditions, the device has a maximum output of 720 kilowatts at a wind velocity of 16 meters per second. Total electrical capacity is 750 kilowatts, and power output per year is 2.135,000 kilowatt/hours. G.G.

N74-16763* National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, Ohio.

WHERE THERE IS A WIND, THERE IS A WAY

Charles A. Mosher In its Wind Energy Conversion Systems Dec. 1973 p 27-32 CSCL 108

A shift in USA energy policy from oil or natural gases to thermonuclear fission and solar energy is predicted. A massive diversified energy research and development effort to productively harness the energy in the winds is outlined to develop commercially feasible wind energy conversion systems - considered a form of solar energy - in the near future.

G.G.

N74-16764* West Texas State Univ., Canyon, NEED FOR A REGIONAL WIND SURVEY

Vaughn Nelson and Earl Gilmore (Amarillo Coll.) In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 33-40 CSCL 10B

Accurate measurements for the purpose of estimating wind energies are proposed in those regions of the USA where the greatest potentials exists. Preliminary wind characteristic calculations from weather station data are provided for the

Southern Great Plains region; wind energies from 153 to 212 kW-hr/(ft squared-per year) for 1970 to 1972 are determined. It is concluded that a wind energy survey based on data compiled from weather service stations is feasible for determining the energy potential of a windpowered integrated energy rietwork.

G.G.

N74-16765* Oklahoma Univ., Norman.
WIND POWER DEMONSTRATION AND SITING PROBLEMS

Karl H. Bergey In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 41-45 refs

CSCL 10B

Technical and economic feasibility studies on a small windmill to provide overnight charging for an electrically driven car are reported. The auxiliary generator provides power for heating and cooling the vehicle which runs for 25 miles on battery power alone, and for 50 miles with the onboard charger operating. The blades for this windmill have a diameter of 12 feet and are coupled through to a conventional automobile alternator so that they are able to completely recharge car batteries in 8 hours. Optimization of a windmill/storage system requires detailed wind velocity information which permits rational siting of wind power system stations.

G.G.

N74-16786* Aleske Univ., Feirbanks. SURFACE WIND CHARACTERISTICS OF SOME ALEUTIAN ISLANDS c20

Tunis Wentink, Jr. In NASA. Lewis Res. Conter Wind Energy Convorsion Systems Dec. 1973 p 46-52 refs

CSCL 04B

The wind power potential of Alaska is assessed in order to determine promising windpower sites for construction of wind machines and for shipment of wind derived energy. Analyses of near surface wind data from promising Alautian sites accessible by ocean transport indicate probable velocity regimes and also present deficiencies in available data. It is shown that winds for some degree of power generation are available 77 percent of the time in the Alautians with peak velocities depending on location. G.G.

N74-16767* Oregon State Univ., Corvellis.
WIND POWER RESEARCH AT OREGON STATE UNIVERSITY

E. Wendoll Hewson In NASA, Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 53-61 refs

CSCL 10B

There have been two primary thrusts of the research effort to date, along with several supplementary ones. One primary area has been an investigation of the wind fields along coastal areas of the Pacific Northwest, not only at the shoreline but also for a number of miles inland and offshore as well. Estimates have been made of the influence of the wind turbulence as measured at coastal sites in modifying the predicted dependence of power generated on the cube of the wind speed. Wind flow patterns in the Columbia River valley have also been studied. The second primary thrust has been to substantially modify and improve an existing wind tunnel to permit the build up of a boundary layer in which various model studies will be conducted. One of the secondary studies involved estimating the cost of building an aerogenerator.

N74-16769* Electrical Research Association, Surrey (England).
WIND DATA FOR WIND DRIVEN PLANT c20
Arthur H. Stodhart In NASA. Lewis Res. Center Wind Energy
Conversion Systems Dec. 1973 p 82-69

CSCL 04B

Simple, averaged wind velocity data provide information on energy availability, facilitate generator site selection and enable appropriate operating ranges to be established for windpowered plants. They also provide a basis for the prediction of extreme wind speeds.

Author

N74-16789* Princeton Univ., N.J. AN INTRODUCTION TO THE PRINCETON SAILWING WINDMILL

T. E. Sweeney and W. B. Nixon In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 70-72 refs

CSCL 10B

Specifically discussed is the sailwing windmill. The aerodynamic characteristics of the sailwing itself are presented in condensed form and its natural application to the wind machine is discussed. Past and present sailwing windmill configurations are shown and their relative merits are compared. A section on a future promising configuration is presented and its compatibility to advanced technology electrical machinery is briefly discussed. Also included is a short bibliography.

N74-16770* Windworks, Inc., Mukwanago, Wis.
THE USE OF PAPER HONEYCOMB FOR PROTOTYPE
BLADE CONSTRUCTION FOR SMALL TO MEDIUM-SIZED
WIND DRIVEN GENERATORS
c18
Hans Meyer In NASA. Lewis Res. Center Wind Energy
Conversion Systems Dec. 1973 p 73-74

CSCL 11D

Paper honeycomb is used for the construction of conventional, propeller-type, windmill blades. Using fairly simple techniques and conventional power tools, it is possible to shape both simple foils and more complex folls with or without tapered plan forms and with or without varying profiles. A block of honeycomb, in its compressed form, is mounted on a wedge and run through a bandsaw with the table at an appropriate tilt angle, it is the combination of the wedge angle and the table angle that gives the tapered planform and profile shape. Next the honeycomb is expanded on the shaft and jigged to give the desired angles of attack. With the honeycomb fixed in position, the blade is covered with a fine weave fiberglass cloth. Any surface quality can then be achieved with filling and sanding.

N74-16771* New Alchemy Inst., Woods Hole, Mass.
THE SAIL WING WINDMILL AND ITS ADAPTATION FOR USE IN RURAL INDIA

Marcus M. Sherman In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 76-79 refs

CSCL 108

An 8 meter-diameter prototype sail wing windmill is reported that uses a one meter-diameter bullock cartwheel to which three bemboo poles are latched in a triangular pattern with overlapping ends, to form the sirframe for cloth sails. This device lifts 300 pounds to a height of 20 feet in one minute in a 10 mph wind.

G.G.

N74-16772* Army Air Mobility Research and Development Lab., Moffett Field, Calif.

ROTOR DYNAMIC CONSIDERATIONS FOR LARGE WIND POWER GENERATOR SYSTEMS

Robert A. Ormiston In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 80-88 ref

CSCL 108

Successful large, reliable, low maintenance wind turbines must be designed with full consideration for minimizing dynamic response to aerodynamic, inertial, and gravitational forces. Much of existing helicopter rotor technology is applicable to this problem. Compared with helicopter rotors, large wind turbines are likely to be relatively less flexible with higher dimensionless natural frequencies. For very large wind turbines, low power output per unit weight and stresses due to gravitational forces are limiting factors. The need to reduce rotor complexity to a minimum favors the use of cantilevered (hingeless) rotor configurations where stresses are relieved by elastic deformations.

N74-16773* Boeing Vertol Co., Philadelphia, Pa.
THE EFFECT OF AERODYNAMIC PARAMETERS ON POWER OUTPUT OF WINDMILLS

W. Wiesner In NASA, Lewis Res. Center Wind Energy Conversion Systems, Dec. 1973, p. 89-95

CSCL 10B

Aerodynamic results for a study on windpower generation are reported. Windmill power output is presented in terms that are commonly used in rotary wing analysis, namely, power output as a function of drag developed by the windmill. Effect of tip speed ratio, solidity, twist, wind angle, blade setting and airfoil characteristics are given.

Author

N74-16774* Science Applications, Inc., La Jolla, Calif. Advanced Concepts Div.
VERTICAL AXIS WIND ROTORS: STATUS AND POTENTIAL

W. Vance In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 96-102

CSCL 10B

The design and application of a vertical axis wind rotor is reported that operates as a two stage turbine wherein the wind impinging on the concave side is circulated through the center of the rotor to the back of the convex side, thus decreasing what might otherwise be a high negative pressure region. Successful applications of this wind rotor to water pumps, ship propulsion, and building ventilators are reported. Also shown is the feasibility of using the energy in ocean waves to drive the rotor. An analysis of the impact of rotor aspect ratio on rotor acceleration shows that the amount of venting between rotor vanes has a very significant effect on rotor speed for a given wind speed.

N74-16776* Grumman Aerospace Corp., Bethpage, N.Y. Research Dept.
ADVANTAGES OF THE DIFFUSER-AUGMENTED WIND TURRINE

R. A. Oman and K. M. Foreman In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 103-106 refs

CSCL 108

Performance optimization for a wind turbine is realized by using a shrouded diffuser to produce up to twice the power of unshrouded turbines of the same diameter. The diffuser converts the kinetic energy of the flow downstream of the rotor into a pressure rise and thus makes it possible for the rotor to capture airflow from a free stream tube area that is greater than that from the rotor itself. The flow velocity through the shrouded rotor is 20 to 80 percent greater than the free wind velocity as opposed to 67 percent less for the unshrouded case. The diffuser also makes it possible to accommodate very high wind speeds without the need of variable pitch in the rotor blades.

N74-18776* California State Univ., San Diego.
BUCKET ROTOR WIND-DRIVEN GENERATOR
Howard H. Chang and Horace McCracken (Sunwater Co.) In
NASA, Lewis Res. Center Wind Energy Conversion Systems
Dec. 1973 p 107-108 \
CSCL 108

As compared with the ordinary propeller type rotor, the bucket rotor is limited in rotational speed since the tip rotor speed can never exceed the wind speed. However, it does not present the blade fatigue problem that the ordinary rotor has, and it perhaps causes less sight pollution. The deflector vanes also provide a venturi passage to capture greater wind flow. The bucket rotors can be strung together end-to-end up to thousands of feet long to produce large amounts of power.

N74-16777* Wisconsin Univ., Madison.
WIND-POWERED ASYNCHRONOUS AC/DC/AC CONVERTER SYSTEM
D, K, Reitan In NASA. Lewis Res. Center Wind Energy

Conversion Systems Dec. 1973 p 109-114 refs

CSCL 10B

Two asynchronous sc/dc/sc systems are modelled that utilize wind power to drive a variable or constant hertz alternator. The

first system employs a high power 60-hertz inverter tie to the large backup supply of the power company to either supplement them from wind energy, storage, or from a combination of both at a preset desired current; rectifier and inverter are identical and operate in either mode depending on the silicon control rectifier firing angle. The second system employs the same rectification but from a 60-hertz alternator arrangement; it provides mainly do output, some sinusoidal 60-hertz from the wind bus and some high harmonic content 60-hertz from an 800-watt inverter.

G.G.

N74-16778* Oklahoma State Univ., Stillwater.
AN ELECTRICAL GENERATOR WITH A VARIABLE SPEED
INPUT: CONSTANT FREQUENCY OUTPUT
H. Jack Allison In NASA, Lewis Res. Center Wind Snergy
Conversion Systems Dec. 1973 p 115-120 (For

CSCL 10E

A new type of rotary energy conversion device for obtaining a desired constant frequency output independent of the speed of the prime mover has been developed and tested using the technique of field modulation and solid state alternator output processing. A 10-kilowatt prototype field modulated frequency down converter system was designed, built, and successfully tested. Experimentally obtained performance characteristics are presented.

N74-16779* Tompkin (Joseph), Salem, Ore.

VOIGHT VARIABLE SPEED DRIVE
Joseph Tompkin In NASA. Lewis Res. Center Wind Energy
Conversion Systems Dec. 1973 p 121-122;

CECL 109

The variable speed drive transmission is mounted within the gondola and connected with the wind turbine blades and the hub. This unit is designed for the production of ac power. The turbine turns by means of the variable speed drive and a set of synchronous three phase generators. This motion is controlled automatically by two wind rosettes in such a way that the wind turbine always opposes the wind direction. The Voight variable speed drive is a mechanical variable positive drive gear transmission. It has an unlimited power and torque transmission, a constant ratio with high degree of accuracy, a speed variation over a wide range, and a nonsilp drive.

N74-16780° Oklahoma State Univ., Stillwater.
ENERGY STORAGE USING HIGH PRESSURE ELECTROLYSIS AND METHODS FOR RECONVERSION
William L. Hughes In NASA. Lewis Res. Center Wind Energy
Conversion Systems Dec., 1973 p 123-129

CSCL 10C

Theoretical and experimental studies on high pressure electrolysis producing hydrogen and oxygen for energy storage and reconversion are reported. Moderate temperature, high pressure hydrogen/oxygen fuel cells with nickel electrodes are investigated for effects of pressure, temperature, and membrane porosity. Test results from an aphodid burner turbine generator combination obtained 40 percent kilowatt hours out of the fuel cell divided by kilowatt hours into the electrolyzer. It is concluded that high pressure hydrogenation of organic materials can be used to synthesize hydrozenes and methanes for making synthetic vehicular fuels.

G.G.

N74-16781* General Electric Co., Santa Barbara, Calif.
USE OF HYDROGEN AND HYDROGEN-RICH COMPO-NENTS AS A MEANS OF STORING AND TRANSPORTING ENERGY

Walter Hausz In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 130-134

CSCL 10C

A one-megawatt wind energy source is assumed that uses half of its output to serve customers as electricity, and stores the other half by conversion to hydrogen, to liquid hydrogen, to stored LH2, and back to electricity. Energy costs and capital

costs of the conversions escalate unit costs to 12.9 cents per kilowatt hour. High conversion costs can be reduced by using Mg2NiH4 and FeTiH2 storage, or by using a 100- or 1000 megawatt system. G.G.

N74-16782* General Electric Co., Lynn, Mass.
STATUS AND APPLICABILITY OF SOLID POLYMER
ELECTROLYTE TECHNOLOGY TO ELECTROLYTIC HYDROGEN AND OXYGEN PRODUCTION

W. A. Titterington In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 135-136

CSCL 10B

The solid polymer electrolyte (SPE) water electrolysis technology is presented as a potential energy conversion method for wind driven generator systems. Electrolysis life and performance data are presented from laboratory sized single cells (7.2 sq in active area) with high cell current density selected (1000 ASF) for normal operation.

N74-16783* Applied Physics Lab., Johns Hopkins Univ., Silver Spring, Md.

SUPERFLYWHEEL ENERGY STORAGE SYSTEM

David W. Rabenhorst In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 137-145 refs

CSCL 10B

A windpowered system using the superflywheel configuration for energy storage is considered. Basic elements of superflywheels are thin rods assembled in pregrooved hub lamina so that they fan out in radial orientation. Adjacent layers of hub lamina are assembled 90 degree in rotation to each other so as to form a circular brush configuration. Thus stress concentrations and rod failure are minimized and realistic failure containment for a high performance flywheel is obtained.

N74-16784* National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, Ohio.
RATTERIES FOR STORAGE OF WIND GENERATED

BATTERIES FOR STORAGE OF WIND GENERATED ENERGY

Harvey J. Schwartz In its Wind Energy Conversion Systems
Dec. 1973 p 146-151
CSCL 10C

Cost effectiveness characteristics of conventional, metal gas, and high energy alkali metal-batteries for wind generated energy storage are considered. A lead-acid battery with a power density of 20 to 30 watt/hours per pound is good for about 1500 charge-discharge cycles at a cost of about \$80 per kilowatt hour. A zinc-chlorine battery that stores chlorine as solid chlorine hydrate at temperatures below 10 C eliminates the need to handle gaseous chlorine; its raw material cost are low and inexpensive carbon can be used for the chlorine electrode. This system has the best chance to replace lead-acid. Exotic alkali metal batteries are deemed too costly at the present stage of development.

N74-16785* InterTechnology Corp., Warrenton, Va. ENERGY STORAGE BY COMPRESSED AIR

George C. Szego In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 152-154

CSCL 100

The feasibility of windpower energy storage by compressed air is considered. The system is comprised of a compressor, a motor, and a pump turbine to store air in caverns or aquifiers. It is proposed that storage of several days worth of compressed air up to 650 pounds per square inch can be used to push the aquifier up closer to the container dome and thus initiate piston action by simply compressing air more and more. More energy can be put into it by pressure increase or pushing back the water in the aquifier. This storage system concept has reheat flexibility and lowest cost effectiveness.

G.G.

N74-16786* Jacobs Wind Electric Co., Inc., Fort Meyers, Fla. EXPERIENCE WITH JACOBS WIND-DRIVEN ELECTRIC

GENERATING PLANT, 1931 - 1957

Marcellus L. Jacobs In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 155-158

CSCL 10B

Engineering, construction, performance, electric output, and different uses of the wind electric 2500- to 3000-watt plant are outlined. After several years of testing different types of windmills, the three blade aeroplane type of propeller was found to be far superior in power output. By means of a flyball governor operated, veriable pitch speed control, the maximum speed of the propeller was accurately and easily controlled, to prevent excessive speeds in high winds and storms. The three blade propeller was found to be necessary to prevent excessive vibration whenever the shift of the wind direction required the plant to change its facing direction on the tower.

N74-16787* McGill Univ., Montreal (Quebec). MacDonald Coll.

REVIEW OF THE WINDPOWER ACTIVITIES AT THE BRACE RESEARCH INSTITUTE

T. A. Lawand In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 159-164 refs.

CSCL 10B

A chronology of windpower studies at the experimental station on Barbados is presented that includes the various development activities on wheeling windmills whose power output is utilized through electrical and electronic systems. A list of institute publications on windpower is included.

G.G.

N74-16788* Solar Wind Co., East Holden, Maine.
WIND POWER SYSTEMS FOR INDIVIDUAL APPLICATIONS

Henry M. Clews In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 165-169

CSCL 10B

A small windpower system is described which is suitable for electrifying a house. The self-contained unit consists of a two kilowatt wind driven generator, a set of 19 storage batteries, a small dc to ac inverter, and a gasoline generator for use as an emergency backup system in case of prolonged calm periods. Cost effectiveness of the electricity generated by this windmill system comes out to about 15 cents per kilowatt hour assuming a 10 year life for the batteries and a 20 year life for the other components. Some other small windpower systems are also described, and it is shown that a windpowered generator in the 15- to 25-kilowatt output range coupled to a direct heated water storage system is able to heat a typical New England home.

G.G.

N74-16789* Pennwatt Corp., Houston, Tex. ECONOMIC CONSIDERATIONS OF UTILIZING SMALL WIND GENERATORS

Robert Dodge In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 170-173

CSCL 10B

The economic feasibility of small wind generators is compared to that of solar cells, primary batteries, thermoelectric generators, and engine generators. It is shown that small wind generator plants offer an attractive alternative to primary battery systems and constantly running engines to generate power in remote areas. The limitation is an annual average wind velocity of at least 9 to 10 mph. Presently available units are most useful in the average load range of 10 to 1000 watts.

N74-16790* Hydro-Quebec Inst. for Research, Varennes.
WIND UTILIZATION IN REMOTE REGIONS: AN ECONOMIC STUDY

James H. VanSant In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 174-176

CSCL 10C

A wind driven generator was considered as a supplement to a diesel group, for the purpose of economizing fuel when wind power is available. A specific location on Hudson's Bay. Povognituk, was selected. Technical and economic data available for a wind machine of 10-kilowatt nominal capacity and available wind data for that region were used for the study. After subtracting the yearly wind machine costs from savings in fuel costs, a net savings of \$1400 per year is realized. These values are approximate, but are though to be highly conservative.

N74-16791* Montana State Univ., Bozeman.
TECHNICAL FEASIBILITY STUDY FOR THE DEVELOPMENT
OF A LARGE CAPACITY WIND POWERED ELECTRICAL
GENERATING SYSTEM

Ralph E. Powe In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 177-179

CSCL 10C

The engineering feasibility of developing a basic mechanical system necessary for extracting large amounts of power (on the order of 10 to 20 MW) from the wind is considered using the concept of vertical airfoils moving along a closed horizontal track system. Attention is focused on those components necessary for the conversion of wind energy to mechanical energy, although the general characteristics and critical aspects of other components are also considered. The four phases of this program are: (1) Establishment of component specifications and interface requirements for major system components; (2) formulation of alternative sets of conceptual designs for major system components: (3) engineering analysis of various components and systems; and (4) re-examination of basic concept and identification of any desirable follow-up work.

N74-16792* Oregon State Univ., Corvallis.

THE OREGON STATE UNIVERSITY WIND STUDIES
Robert E. Wilson In NASA. Lewis Res. Center Wind Energy
Conversion Systems Dec. 1973 p 180-185

CSCL 10C

The economic feasibility of commercial use of wind generated power in selected areas of Oregon is assessed. A number of machines for generating power have been examined. These include the Savonius rotor, translators, conventional wind turbines, the circulation controlled rotor and the vertical axis winged turbine. Of these machines, the conventional wind turbine and the vertical axis winged turbine show the greatest promise on the basis of the power developed per unit of rotor blade area. Attention has been focused on the structural and fatigue analysis of rotors since the economics of rotary winged, wind generated power depends upon low cost, long lifetime rotors. Analysis of energy storage systems and tower design has also been undertaken. An economic means of energy storage has not been found to date. Tower design studies have produced cost estimates that are in general agreement with the cost of the updated Putnam 110-foot tower. Author

N74-16793* Aerowatt Corp., Paris (France).
FRENCH WIND GENERATOR SYSTEMS
John M. Noel In NASA. Lewis Res. Center
Conversion Systems Dec. 1973 p 186-196

CSCL 10B

The experimental design of a wind driven generator with a rated power of 800 kilovolt amperes and capable of being connected to the main electrical network is reported. The rotor is a three bladed propeller; each blade is twisted but the, fixed pitch is adjustable. The asynchronous 800-kilovolt ampere generator is driven by the propeller through a gearbox. A dissipating resistor regulates the machine under no-load conditions. The first propeller on the machine lasted 18 months; replacement of the rigid propeller with a flexible structure resulted in breakdown due to flutter effects.

N74-16794* Massachusetts Univ., Amherst. A PROPOSED NATIONAL WIND POWER R AND D PROGRAM William Heronemus In NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 197-203

CSCL 10B

An offshore wind power system is described that consists of wind driven electrical dc generators mounted on floating towers in offshore waters. The output from the generators supplies underwater electrolyzer stations in which water is converted into hydrogen and oxygen. The hydrogen is piped to shore for conversion to electricity in fuel cell stations. It is estimated that this system can produce 159 x 10 to the ninth power kilowathours per year. It is concluded that solar energy and that includes wind energy is the only way out of the US energy dilemma in the not too distant future.

N74-16795* Budgen and Associates. Pointe Claire (Quebec).
A COMMENT ON TOWERS FOR WINDMILLS
Harry P. Budgen In NASA. Lewis Res. Center
Conversion Systems Dec. 1973 p 204-205

CSCL 10B

Design considerations for windmill tower structures include the effects of normal wind forces on the rotor and on the tower. Circular tabular or masonry towers present a relatively simple aerodynamic solution. Economic factors establish the tubular tower as superior for small and medium sized windmills. Concrete and standard concrete block designs are cheaper than refabricated steel structures that have to be freighted.

G.G.

N74-16796* Stuttgart Univ. (West Germany).
SOME EXTEMPORANEOUS COMMENTS ON OUR EXPERIENCES WITH TOWERS FOR WIND GENERATORS
Ulrich Hutter In NASA. Lewis Res. Center Wind Energy
Conversion Systems Dec. 1973 p 206-207

CSCL 10B

A wind generator tower must be designed to withstand fatigue forces and gust winds loads. Optimum tower height depends on the energy cost to the customer because an increase in height results in an increase in the cost of the plant. It is suggested that costs are minimum for the shortest tower possible and that the rotor should be as large as possible.

G.G.

N74-16797* Aero Vironment, Inc., Pasadena, Calif.
WIND MACHINES c20
P. B. S. Lissaman In NASA, Lewis Res. Center Wind Energy
Conversion Systems Dec. 1973 p 208-239

CSCL 04B

The basic elements of the air/water momentum exchange are described by the environment, the potential, the air and water subsystems, the total system, and the rule. Many of these topics have direct analogues in aerogenerator design. Aspects of optimal sail design and of waveless hulls are briefly outlined. A wind driven vehicle capable of moving directly downwind faster than the wind, is reported. The lecture is illustrated with slides and movie clips showing surfing catamarans, land and water versions of the Bauer vehicle, hang gliding, land sailing, and wind surfing.

N74-16798* National Science Foundation, Washington, D.C. NSF PRESENTATION Frederick H. Morse *In* NASA. Lewis Res. Center Wind Energy Conversion Systems Dec. 1973 p 240-243

CSCL 10B)

Wind energy conversion research is considered in the framework of the national energy problem. Research and development efforts for the practical application of solar energy—including wind energy—as alternative energy supplies are assessed in: (1) Heating and cooling of buildings; (2) photovoltaic energy conversion; (3) solar thermal energy conversion; (4) wind energy conversion; (5) ocean thermal energy conversion; (6) photosynthetic production of organic matter; and (7) conversion of organic matter into fuels.

N74-16799* National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

NASA PRESENTATION

Ronald L. Thomas In its Wind Energy Conversion Systems Dec. 1973 p 244-253 CSCL 10B

The development of a wind energy system is outlined that supplies reliable energy at a cost competitive with other energy systems. A government directed industry program with strong university support is recommended that includes meteorological studies to estimate wind energy potentials and determines favorable regions and sites for wind power installations. Key phases of the overall program are wind energy conversion systems, meteorological wind studies, energy storage systems, and environmental impact studies. Performance testing with a prototype wind energy conversion and storage system is projected for Fiscal 1977.

N74-16800*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

H2-02 COMBUSTION POWERED STEAM-MHD CENTRAL POWER SYSTEMS

G. R. Seikel, J. M. Smith, and L. D. Nichols 1974 14 p refs Presented at Hydrogen Economy Miami Energy Conf., Miami Beach, Fla., 18-20 Mar. 1974; sponsored by Univ. of Miami (NASA-TM-X-71512; E-7890) Avail: NTIS HC \$3.00 CSCL 10B

Estimates are made for both the performance and the power costs of H2-O2 combustion powered steam-MHD central power systems. Hydrogen gas is assumed to be transmitted by pipe from a remote coal gasifier into the city and converted to electricity in a steam MHD plant having an integral gaseous oxygen plant. These steam MHD systems appear to offer an attractive alternative to both in-city clean fueled conventional steam power plants and to remote coal fired power plants with underground electric transmission into the city.

N74-16801*# Linguistic Systems, Inc., Cambridge, Mass. USING THE ENERGY OF THE WIND FOR ELECTRIFICATION

V. R. Sektorov Washington NASA Feb. 1974 18 p Transl. into ENGLISH from Elektrichestvo, (USSR), no. 3 March 1953 p 11-16

(Contract NASw-2482)

(NASA-TT-F-15307) Avail: NTIS HC \$4.00 CSCL 10A

The utilization of wind energy for generating electric power is discussed. Existing power generators utilizing wind energy are described and their use in agriculture is indicated. Author

N74-16802*# Scientific Translation Service, Santa Barbara, Calif.

THE ECONOMY AND PRACTICALITY OF LARGE SCALE WIND GENERATION STATIONS (CONCLUSION)

H. Witte Washington NASA Feb. 1974 15 p refs Transl. into ENGLISH from Elektrotech. Z. (Berlin-Charlottenburg), v. 59, no. 52, 29 Dec. 1938 p 1404-1407 (Contract NASw-2483)

(NASA-TT-F-15348) Avail: NTIS HC \$4.00 CSCL 108

The design and operational problems of wind power generating stations are discussed. Wind power generating stations are found to be economical for operation in conjunction with existing generating stations. Very large ring generator stations are described.

Author

N74-16803*# Linguistic Systems, Inc., Cambridge, Mass. A WIND PLANT TO POWER SEA SIGNALS

F. Baumeister Washington NSA Feb. 1974 17 p Transl. into ENGLISH from elektrotech. Z. (Berlin-Charlottenburg), v. 7, no. 12, 21 Dec. 1955 p 437-441 (Contract NASw-2482)

(NASA-TT-F-15356) Avail: NTIS HC \$4.00 CSCL 10B

On the basis of the experience with the Schleimunde windpower plant, it may be said in conclusion that economic operation of such a windpower plant is feasible whenever, on the one hand, the cost of connecting the consumers to the

public network is prohibitive, and on the other hand sufficient wind is available. The planning of long term duration and force reading is of particular value. It is advantageous to erect windpower plants in coastal and mountain regions.

Author

N74-16807*# Arizona Univ., Tucson. Dept. of Electrical Engineering.

INVERSION LAYER SOLAR CELL FABRICATION AND EVALUATION Final Report

R. L. Call Sep. 1973 95 p Prepared for JPL (Contracts NAS7-100; JPL-953461)

(NASA-CR-136932) Avail: NTIS HC \$8.00 CSCL 10A

Silicon solar cells operating with induced junctions rather than diffused junctions have been fabricated and tested, induced junctions were created by forming an inversion layer near the surface of the silicon by supplying a sheet of positive charge above the surface. This charged layer was supplied through three mechanisms: (1) applying a positive potential to a transparent electrode separated from the silicon surface by a dielectric, (2) contaminating the oxide layer with positive ions, and (3) forming donor surface states that leave a positive charge on the surface. A movable semi-infinite shadow delineated the extent of sensitivity of the cell due to the inversion region. Measurements of the response of the inversion layer cell to light of different wavelengths indicated it to be more sensitive to the shorter wavelengths of the sun's spectrum than conventional cells. The greater sensitivity occurs because of the shallow junction and the strong electric field at the surface. Author

N74-16809# Brookhaven National Lab., Upton, N.Y. HYDROGEN ECONOMY

V. L. Sailor 1973 23 p refs Presented at Seminar on Novel Power Sources for a Power Hungry World, Baltimore Sponsoredby AEC (BNL-18224) Avail: NTIS HC \$3.25

A brief discussion is given of the possibilities of synthetic-fuel energy conversion cycles. The advantages and disadvantages of using coal and oil shale products are indicated. Environmental and economical problems which remain during the product of synthetic fuels from coal and oil shale, and the advantages and disadvantages of hydrogen as a synthetic fuel are outlined. Technical problems involve storage and on-board tankage for vehicles and aircraft. Safety problems are also discussed. NSA

N74-16810# Sandia Labs., Albuquerque, N.Mex. ECONOMIC COMPARISON OF TWO SOLAR/HYDROGEN CONCEPTS

W. H. McCulloch, R. B. Pope, and D. O. Lee Oct. 1973 $\,$ 12 p refs

(Contract AT(29-1)-789)

(SLA-73-900) Avail: NTIS HC \$3.00

Two concepts for producing hydrogen from solar energy are examined. The utilization of solar energy and the concept of a hydrogen fuel both have drawbacks. Solar energy is intermittent, interrupted by the diurnal cycle of available sunlight and by weather conditions. Most systems designed to use solar energy include an expensive energy storage mechanism to meet demands during periods when there is no incident solar radiation. Hydrogen generation plants would require large amounts of energy input. The concepts described utilize parameters typical of operation in Albuquerque, New Mexico. It is assumed that the collectors are positioned with the axes in a northsouth plane, tilted 35 deg from the horizontal toward the south, with spacing between collectors equal to the collector dimensions.

N74-16815# Systems Research Labs., Inc., Dayton, Ohio. KIVA-I MHD GENERATOR MODIFICATIONS AND TESTS Technical Report, 28 Feb. 1972 - 31 Mar. 1973
Lester W. Buechler and Robert A. Nimmo Aug. 1973 241 p. refs

(Contract F33615-71-C-1425)

(AD-770063; AFAPL-TR-73-71) Avail: NTIS CSCL 10/2

The AFAPL-MHD Facility (KIVA-I) was used to conduct an extensive series of tests on the pegwall diagonally connected generator. Extensive knowledge was gained in the areas of

conductivity, oxygen-to-fuel ratios, interelectrode connection angles, seed particle geometry, and optimum loading conditions. A peak power of 210 KW was achieved. A DC-to-DC Inverter was successfully operated on the MHD generator, providing an output of 50 KW at 50 KV dc. Numerous modifications were made to the KIVA-I facility, including a new high-speed data acquisition system, a close circuit television system, a pulse-control network for the main burner, a new set of pole faces for the magnet, a digital display panel, and an instrumented copper Author (GRA) electrode assembly.

N74-18816# Army Foreign Science and Technology Center, Charlottesville. Va.

DIRECT ENERGY CONVERSION METHODS

B. P. Nesterov and V. I. Rydnik 24 Jul. 1973 31 p Transl. into ENGLISH from Izv. Vyssh. Ucheb. Zaved., Fiz. (Tomsk), no 7. 1971 p 32

(AD-770000; FSTC-HT-23-131-73) Avail: NTIS CSCL 10/2 Magnetohydrodynamic generators, thermoelectric and thermion generators are discussed. Data are presented for experimental installations of these generators in the Soviet GRA Union

Army Construction Engineering Research Lab., N74-16819# Champaign, Ill.

ADVANCED ELECTRICAL POWER GENERATION AND DISTRIBUTION CONCEPTS FOR MILITARY FACILITIES Jun. 1973 134 p refs

(DA Proj. 4A0-62112-A-891)

(AD-765476; CERL-PR-E-13) Avail: NTIS CSCL 10/2

The report describes probable technical advancement of electrical power generation systems in the 1980-1990 time period for application in fixed or semi-fixed military facilities in the power range of 250 kw to 50,000 kw. Subjects covered include commerical power reliability, uninterruptible power system, conventional steam, diesel, gas turbine (open and closed \cycle) generators and distribution systems for currently available equipment. Advanced power systems include nuclear reactors. batteries and fuel cells, magnetohydrodynamic systems, fusion systems, solar power systems and direct conversion systems of the thermoelectric and thermionic type. (Modified author CPA abstract)

N74-16996# Rocket Propulsion Establishment, Westcott (England).

THE PRODUCTION OF LIQUID HYDROGEN AT THE ROCKET PROPULSION ESTABLISHMENT

R. Bainbridge and T. R. Horton Dec. 1971 60 p refs (RPE-TR-71/17; BR36685) Avail: NTIS HC \$6.00

The design, development and operation of a liquid hydrogen plant with an hourly output of 100 liters of normal liquid hydrogen or 70 liters of 85-90 per cent parahydrogen are described. In a period of six months over 40,000 liters of 85-90 per cent parahydrogen was produced, most of which was used in support of ELDO projects. The performance of a pre-cooled Linde cycle is examined and the major design concepts required to ensure a safe reliable production facility are discussed.

N74-17190 Brigham Young Univ., Provo, Utah. KINETICS OF COAL GASIFICATION IN A LOW PRESSURE, LOW RESIDENCE TIME, ENTRAINED FLOW REACTOR Ph.D. Thesis

Chiang-Liu Chen 1973 192 p

Avail: Univ. Microfilms Order No. 73-31405

Experimental studies were made with a small entrained reactor in which the finely-ground coal entrained in carrier gas was rapidly mixed with oxidizing combustion gases. A maximum of 66.5 percent coal was gasified in 0.012 seconds. The char formation was an overall zero order while the acetylene decomposition was a second order reaction with a frequency factor of 4 times 10 to the 7th power and an activation energy of about 12 Kcal/mole. The residence time of less than 0.050 seconds is sufficient for hydrocarbon gas production. Higher residence time resulted in lower gasification because of partial

decomposition of hydrocarbons to elementary carbon. Dissert, Abstr.

N74-17454# Paris Univ., Orsay (France). Lab. of Plasma. Physics. DESCRIPTION OF THE ENERGY SOURCE PROJECT DELIVERING 1 MEGAJOULE IN 1 MICROSECOND [DE-SCRIPTION DU PROJET D'UNE SOURCE D'ENERGIE DELIVRANT 1 MEGAJOULE EN 1 MICROSECONDE F. Damidau and C. Rioux Apr. 1972 17 p refs in FRENCH (1 F-3) Avail: NTIS HC \$4.00

The project for a high energy source delivering one MJ in one microsecond using a unipolar autoexcited ironless rotating generator is presented. Three subsystems are detailed: (1) the primary source mentioned above, delivering one MJ in 0.1 second with one MA current coupled to a magnetic storage coil, (2) a primary transfer coil with high efficiency (transfer time 100 microsecond and associated switching gear; and (3) a secondary transfer coil to reach one microsecond. Circuit breakers required for the various connections are detailed with regard to mechanical devices and exploding wire techniques. Mutually coupled inductances used for high efficiency transfer are described and the sequence of switch operations detailed.

N74-17523# Southwest Research Inst., San Antonio, Tex. Army Fuels and Lubricants Research Lab.

PERFORMANCE OF ARMY ENGINES WITH LEADED AND UNLEADED GASOLINE. PHASE 1: LABORATORY TESTING Interim Report

J. A. Russell, J. D. Tosh, A. A. Johnston, J. V. Moffitt, and C. A Mases Jan. 1973 135 p refs (Contract DAAD05-72-C-0427)

(AD-766760; AFLRL-21) Avail: NTIS CSCL 21/7

Six different types of Army engines were endurance tested on dynamometers for 125 hr each, using three grades of military Federal specification gasoline having typical conventionally leaded, low-lead, and unleaded concentrations of lead antiknock additives, respectively. All six engine types performed satisfactorily on all gasoline blends from the standpoints of (1) catastrophic failure, (2) excessive valve or cylinder wear, (3) engine power output and fuel and oil consumption, and (4) emissions degradia-Author tion (Modified author abstract)

N74-17527# Argonne National Lab., Ill. SOLAR ENERGY EVALUATION GROUP REPORT

Aug. 1973 48 p refs (Contract W-31-109-eng-38)

(ANL-8045) Avail: NTIS HC \$4.00

A partial reviews of the status of various phases of solar-energy utilization and of some of the areas of potentially profitable research is reported. The review covers the biological and in vitro aspects of the photochemical conversion of solar energy; the photovoltaic, photothermal, and thermoelectric studies of the physical-conversion process; the use of solar energy for heating and cooling buildings; and the central-station power Author (NSA) approach.

N74-17642*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio. EMISSIONS OF NITROGEN OXIDES FROM AN EXPERI-MENTAL HYDROGEN-FUELED GAS TURBINE COMBUS-

TOR Carl T. Norgren and Robert D. Ingebo Washington Feb. 1974 22 p refs

(NASA-TM-X-2997; E-7745) Avail: NTIS HC \$3.00 CSCL

The effect of operating variables of a hydrogen fueled combustor on exhaust concentrations of total oxides of nitrogen was determined at inlet-air temperature levels up to 810 K, pressure of 414,000N/sa m, and reference velocity of 21.3 m/sec. The combustor, which was originally designed for hydrocarbon fuel produced a NO(x) concentration of 380 ppm with hydrogen at 810 K inlet-air temperature. A reduction in NO(x) of about 30 % was obtained by modification to a lean or rich primary zone. The lowest NO(x) levels obtained with hydrogen were equivalent to those of the reference combustor burning hydrocarbon fuels.

N74-17660 Central Electricity Generating Board, London (England).

ECONOMETRIC MODELS: THEIR APPLICATION TO THE ECONOMIC AND ENERGY SECTORS

G. G. Kinnane, comp. Dec. 1973 26 p refs (CE-Bibl-220) Avail: Issuing Activity

A bibliography of abstracts on econometric models and their application to the economy and energy sectors is presented. The bibliography has 101 references. E.H.W.

N74-17661# Joint Publications Research Service, Arlington,

TRANSLATIONS ON EASTERN EUROPE SCIENTIFIC AFFAIRS, NO. 383

30 Jan. 1974 29 p refs Transl. Into ENGLISH from various East European periodicals

(JPRS-61101) Avail: NTIS HC \$3.50

Romanian research is reported in the areas of: (1) digital processing and transmission of information, and (2) fuel savings with thermoenergetic equipment.

N74-17663 Joint Publications Research Service, Arlington, Va. ROLE OF THERMOENERGETIC RESEARCH IN SAVING FUEL

Teofil Popovici and D. Marian In its Transl. on Eastern Europe Sci. Affairs, No. 383 (JPRS-61101) 30 Jan. 1974 p 24-26 Transl, into ENGLISH from Romania Libera (Bucharest), 18 Nov. 1973 2 p

A question and answer interview with the director of the Romanian Research and Design Institute for Thermoenergetic Equipment is reported. The interview involves proposals of concrete methods by which researchers and designers of thermoenergetic equipment can help to better use the fuel in the national

N74-17666# Bureau of Mines, Washington, D.C. Office of Economic Analysis.

DETERMINING THE EFFECTS OF GASOLINE PRICE ON USE OF METALS IN AUTOMOBILE MANUFACTURE

Phillip N. Yasnowsky and Donald S. Colby 1974 18 p refs (BM-RI-7871) Avail: NTIS HC \$4.00

An attempt was made to relate the size of automobiles to the price of gasoline, and the use of minerals in automobile manufacture to the size of automobiles. Only one of the many plausible scenarios of public reaction to higher gasoline prices. a switch to economy size automobiles, is developed. No account is taken of other potential impacts such as improvements in public transportation or increased occupancy per vehicle. Futhermore, a gasoline price increase is the only incentive to the greater utilization of economy cars that is considered. A gasoline price increase to \$0.60 per gallon would reduce the amount of minerals required to produce the automobiles sold in the United States by an estimated 15 percent. Gasoline prices of \$0.80 and \$1 per gallon would cause declines in mineral requirements for U.S. automobile sales estimated at 26 percent and 35 percent, respectively.

N74-17669# Committee on Interior and Insular Affairs (U. S.

A REVIEW OF ENERGY POLICY ACTIVITIES OF THE 92D

1973 87 p refs Presented to Comm. on Interior and Insular Affairs, 93d Congr., 1st Sess., 30 Dec. 1972 Prepared by Library of Congr.

Avail: Comm. on Interior and Insular Affairs

The provision of an adequate supply of all needed forms of energy at reasonable and stable prices, with incentive for their continued adequate provision, without degradation of the environment or jeopardy to the national security, and with minimum waste is discussed. Three basic areas are discussed:

the legislation that was enacted; the legislation that was proposed but not enacted; and the hearings that were held by the various committees and subcommittees of the Congress. In addition, reports concerning energy that were issued are included. Author

N74-17680# Oak Ridge National Lab., Tenn. NSF-RANN ENERGY ABSTRACTS: A MONTHLY AB-STRACT JOURNAL OF ENERGY RESEARCH

M. P. Guthrie, ed. Sep. 1973 24 p refs Sponsored in part by NSF

(Contract W-7405-eng-26)

(ORNL-EIS-73-52-Vol-1-No-9) Avail: NTIS HC \$3.25

One-hundred abstracts are presented of recently published articles on energy resources; energy conversion; energy production, consumption, economics, and policy; electric power production consumption, and transmission; and environmental studies related to power production and use. Each abstract is accompanied by the following information; title; author; corporate author with address; publication description; publication date; research sponsor; and availability.

N74-17685# Technische Hogeschool, Delft (Netherlands). AVIATION NEEDS AND PUBLIC CONCERNS

Emile VanLennep (Organ, for Econ, Co-operation and Develop, Paris) 1973 39 p Presented at 7th Dr. Albert Plesman Memorial Lecture, Delft, Nath., 29 Oct. 1973 Avail: NTIS HC \$5.00

The seventh Dr. Albert Plesman Memorial Lecture deals with the problems of aviation needs and public concerns. The problems of aircraft noise, and its reduction, are discussed. The growing demands on energy resources are coupled with the rising fuel prices. The growing scarcity of land suitable for airport sites is illustrated. Some background data is provided from related OECD studies. **ESRO**

N74-17779# Battelle Columbus Labs., Ohio. GENERAL AVIATION COST IMPACT STUDY. VOLUME 1: **EXECUTIVE SUMMARY Final Report**

J. W. Chadwick, T. W. Hall, E. T. Yeager, and R. W. Cote. Jun. 1973 36 p refs

(Contract DOT-FA72WA-3118)

(AD-771603) Avail: NTIS CSCL 01/3

The report in four volumes presents the results of an analysis of the effects of cost changes on general aviation activity. The major objectives of the study were to investigate ownership and operating costs in each segment of general aviation, and to develop methodology for evaluating the cost impact of regulatory changes on general aviation activity. The study effort included compilation of a cost and activity data base, definition of fixed and variable cost centers, determination of cost sensitivity relationships and determination of cost impact relationships. Volume 1 provides a summary of the overall study. (Modified author abstract)

N74-17780# Battelle Columbus Labs., Ohio. GENERAL AVIATION COST IMPACT STUDY. VOLUME 2: RESEARCH METHODOLOGY Final Report

J. W. Chadwick, T. W. Hall, E. T. Yeager, and R. W. Cote Jun. 1973 133 p

(Contract DOT-FA72WA-3118)

(AD-771606) Avail: NTIS CSCL 01/3

The report in four volumes presents the results of an analysis of the effects of cost changes on general aviation activity. Volume 2 presents the rationale and methodology used in the analysis. (Modified author abstract)

N74-17781# Battelle Columbus Labs., Ohio. GENERAL AVIATION COST IMPACT STUDY. VOLUME 3: PLANNING GUIDE Final Report

J. W. Chadwick, T. W. Hall, E. T. Yeager, and R. W. Cote. Jun. 1973 218 p

(Contract DOT-FA72WA-3118)

(AD-771759) Avail: NTIS CSCL 01/3

The report in four volumes presents the results of an analysis

of the effects of cost changes on general aviation acitivity. The major objectives of the study were to investigate ownership and operating costs in each segment of general aviation, and to develop methodology for evaluating the cost impact of regulatory changes on general aviation activity. The study effort included compilation of a cost and activity data base, definition of fixed and variable cost centers, determination of cost sensitivity relationships and determination of cost impact relationships. The results are presented in graphical form in Volume 3 of this report to facilitate easy use. (Modified author abstract)

N74-17784*# Little {Arthur D.), Inc., Cambridge, Mass.
FEASIBILITY STUDY OF A SATELLITE SOLAR POWER
STATION Final Report

Peter E. Glaser, Owen E. Maynard (Raytheon Co., Sudbury, Mass.), John Mackovciak, Jr. (Grumman Aérospace Corp.), and Eugene L. Ralph (Spectrolab., Inc., Sylmar, Calif.) Washington NASA Feb. 1974 199 p. refs

(Contract NAS3-16804)

(NASA-CR-2357; ADL-C-74830) Avail: NTIS HC \$5.50 CSCL

A feasibility study of a satellite solar power station (SSPS) was conducted: (1) to explore how an SSPS could be "flown" and controlled in orbit; (2) to determine the techniques needed to avoid radio frequency interference (RFI); and (3) to determine the key environmental, technological, and economic issues involved. Structural and dynamic analyses of the SSPS structure were performed, and deflections and internal member loads were determined. Desirable material characteristics were assessed and technology developments identified. Flight control performance of the SSPS baseline design was evaluated and parametric sizing studies were performed. The study of RFI avoidance techniques covered; (1) optimization of the microwave transmission system; (2) device design and expected RFI; and (3) SSPS RFI effects. The identification of key issues involved (1) microwave generation, transmission, and rectification and solar energy conversion; (2) environmental-ecological impact and biological effects; and (3) economic issues. The feasibility of the SSPS based on the parameters of the study was established. Author

N74-17786*# Linguistic Systems, Inc. Cambridge, Mess.
DC GENERATOR FOR KOLKHOZ WIND POWERED
GENERATORS

K. I. Shenfer and A. Ivanov Washington NASA Mar. 1974 11 p refs Transl into ENGLISH from Elektrichestvo (USSR). v. 61, 1940 p 14-16 (Contract NASw-2482)

(NASA-TT-F-15347) Avail: NTIS HC \$4.00 CSCL 10A

The use of carborundum-graphite resistors to control the voltage output from small wind-powered generators is described. Experiments were performed for devising methods of regulating dc generators to supply constant voltage, and a new type of nonlinear resistor was developed for use as a regulator. Author

N74-17787*# Linguistic Systems, Inc., Cambridge, Mass.
THE PRESENT STATUS OF HONNEF WIND POWER
DIANTS

P. Juchem Washington NASA Feb. 1974 19 p refs Transl. into ENGLISH from Electrotech. Z., (West Germany), Ausgabe 8, v. 7, no. 5, 21 May 1955 p 187-191.

(NASA-TT-F-15355) Avail: NTIS HC \$4.00 CSCL 10A

The most important energy sources on earth, next to the sun and water, are coal and oil. However, it seems that these deposits will be exhausted in the forseeable future. Large windpower plants are destined to play an important role in the tapping of new energy sources. Their viability must be judged from the research and development work carried out in the U.S.S.R., the U.K., the U.S.A., and Germany.

N74-17788*# Boeing Aerospace Co., Seattle, Wash. Kent Space Center.

HIGH VOLTAGE SOLAR ARRAY EXPERIMENTS Final Report

K. L. Kennerud Mar. 1974. 136 p refs (Contract NAS3-14364) (NASA-CR-121280) Avail: NTIS HC \$10.00 CSCL 10A

The interaction between the components of a high voltage solar array and a simulated space plasma is studied to obtain data for the design of a high voltage solar array capable of 15kW at 2 to 16kV. Testing was conducted in a vacuum chamber 1.5-m long by 1.5-m diameter having a plasma source which simulated the plasma conditions existing in earth orbit between 400 nautical miles and synchronous altitude. Test samples included solar array segments pinholes in insulation covering high-voltage electrodes, and plain dielectric samples. Quantitative data are presented in the areas of plasma power losses, plasma and high voltage induced damage, and dielectric properties. Limitations of the investigation are described.

N74-17789*# Scientific Translation Service, Santa Barbara.

THE dc GENERATORS FOR UTILIZING WIND POWER Antonio Carrer Washington NASA Mar. 1974 26 p refs Transl. into ENGLISH from Elettrotecnica (Milan), v. 36. 10-25 Aug. p 376-383 (Contract NASw-2483)

(NASA-TT-F-15351) Avail: NTIS HC \$4.50 CSCL 10A

Theoretical considerations are explained and experimental findings pertaining to the possibility of utilizing wind power with electromechanical units comprising various types of direct current machines.

Author

N74-17790# Little (Arthur D.), Inc., Cambridge, Mass.
NEW SOURCES OF POWER: SOLAR ENERGY
Peter E. Glaser Sep. 1973 13 p Presented at the World
Energy Supplies Conf., London, 18-20 Sep. 1973
Avail: NTIS HC \$4.00

Two obstacles to harnassing solar energy, storage and collection, are discussed in terms of solar heating and cooling systems for buildings. The cost ranges for heating with solar energy are compared with the use of conventional fuels. Photovoltaic conversion of solar energy is discussed along with solar energy conversion in space, solar heat engine power plants, wind energy, and ocean thermal gradients for powering large heat engines.

K.M.M.

N74-17791*# Yardney Electric Corp., Pawcatuck, Conn.
DEVELOPMENT AND FABRICATION OF SEALED SILVERZINC CELLS, PHASE 1 Final Report
Ivan C. Blake and C. Philip Donnel, III Dec. 1973 56 p refs

(Contract NAS3-16805) (NASA-CR-134591) Avail: NTIS HC \$6.00 CSCL 10C

A facility was designed, constructed and equipped for the production of prismatic alkaline rechargeable battery cells using inorganic (ceramic) separators. This unique facility is environmentally controlled and contains separate areas for electrode fabrication, separator processing, cell assembly, cell finishing and testing. An initial production run of 125 sealed silver zinc cells, using inorganic separators, was made in the facility in order to provide samples for baseline performance tests. Ten of these cells were given performance characterization and life cycle tests.

N74-17792*# Kanner (Leo) Associates, Redwood City. Calif. WIND POWER, PART 2 - ECONOMIC FEASIBILITY, 1949 G. Lacroix Washington NASA Mar. 1974 23 p. refs. Transl. into ENGLISH from Tech. Mod., (France), v. 41, nos. 7, 8, 1-5 Apr. 1949

(Contract NASw-2481)

(NASA-TT-F-15419) Avail: NTIS HC \$4.25 CSCL 10A

Both classical and theoretical methods for preventing wind engines from overspeeding are described. The greatest drawback in the use of these devices is seen to be their inability to compete with other power sources on an economic basis. In this connection there is a detailed description of the failure of the Grandpais Knob experiment conducted in Vermont in the early 1940's: the technical defects were minor in comparison to the lack of economic feasibility. Russian efforts and Danish projects are discussed briefly.

N74-17795# Mitro Corp., McLean, Va. Systems Development

SOLAR ENERGY SYSTEMS

Frenk R. Eldridge Mar. 1973 100 p refs

(M73-26) Avail: NTIS HC \$8.00

Alternative solar energy systems that can be used for generating electricity and producing hydrogen fuels are reviewed. Particular attention is given to the possibility of employing photovoltaic cells to collect the solar energy. Different system aizes are explored, ranging from small household systems of a few kilowetts output, to large systems capable of producing. transmitting, storing, and distributing a major portion of the U.S. energy requirements by the year 2000.

N74-17797# Purdue Univ., Lafayette, Ind. School of Electrical Engineering.

NOVEL MATERIALS FOR POWER SYSTEMS Semiennuel Technical Report, 1 Jun. - 30 Nov. 1973

R. J. Schwartz, C. A. Angell, and R. G. Squires Dec. 1973 66 p refe

(Grant DAHC15-73-G0011; ARPA Order 2338)

(AD-771336) Avail: NTIS CSCL 10/2

The second project is aimed at developing an understanding of glassy materials which conduct electricity by the movement of protons through structure. The long range objective of the third research program is to modify the distribution of exidation states which are stable at the surface of a metal oxide catalyst by controlling the dispersion of the catalyst on its inert support. Proliminary kinetic studies of the exidation of carbon monoxide: A maximum rate exists at about 3% Cr. There seems to be little, if any, effect of the dispersion on activity at chromium contents less than one percent. (Modified author abstract)

N74-17798# Molecular Energy Corp., Murray Hill, N.J.
CONSTRUCTION OF 850 AND 4,000 AMPERE-HOUR SILVER-ZINC CELLS USING INORGANIC SEPARATOR Final Report, Jul. 1972 - Oct. 1973

Charles Grun Dec. 1973 32 p (Contract N00024-73-C-5043)

(AD-771397; MEC-10-73) Avail: NTIS CSCL 10/3

A 30 empere-hour (A.H.) Silver-Zinc cell using government supplied inorganic separator 3420-25-FM was constructed and cycled for 120 50% cycles. Test results are discussed. Two 850 A.H. cells (NR-1 type) and two 4,000 A.H. (Dolphin type) Silver-Zinc cells were constructed using the inorganic 3420-25-FM separator. Testing of these cells will be carried out by the government for use in submersible vehicles. (Modified author abstract)

N74-17799# Edo Corp., College Point, N.Y. Government Products Div.

EXPERIMENTAL REEL RESPONSE SYSTEM FOR HIGH PERFORMANCE SIMPLIFIED AERIAL REFUELING STORE Final Engineering Report

R. J. Miko, L. Pino, and H. Schwartz Apr. 1973 56 p (Contract N00019-70-C-0498)

(AD-771389; EDO-9972) Avail: NTIS CSCL 01/2

The report presents the results of a program to verify the feasibility of innovations to a high performance serial refueling store designed under a previous contract. Operational tests of an experimental hose reel assembly and control system demonstrated the simplicity of system operation and control. The test program demonstrated that the hydrostatic transmission and controls could achieve the desired hose extension, response and retraction accelerations and velocities, and that the hose could be wound onto a 17-inch diameter reel positioned with its axis parallel to the store centerline. Author (GRA)

N74-17800# Environmental Protection Agency, Washington, D.C. Office of Research and Monitoring. **ENERGY CONSERVATION STRATEGIES**

Marquis R. Seidel, Steven E. Plotkin, and Robert O. Reck Jul. 1973 122 p refs

(PB-224493/7GA; EPA-R5-73-021) Avail: NTIS MF \$1.48; SOD HC \$1.25 as EP1.23/3-73-021 CSCL 21D

Strategies for reducing national energy demands are examined. It is necessary to find out, for each potential energy saving, how much energy is involved and how costly the alternatives would be. Many users get much of their energy at relatively low prices, and are thus encouraged to waste it; the economist calls this price distortion, a form of market failure. The study analyzes the kinds of market failure which seem to cause the present energy crisis, the kinds of government action which could rectify these failures, and the likely response of the economy to moderate price increases. Numerous actions, some large and some small, would be required to restore a more efficient functioning of the market for energy. In an efficient market, energy price increases of 25% would prompt a halving of the growth of energy demand; through 1990, energy needs would grow 40% rather than the 100% projected at current prices.

Author (GRA)

N74-17801# California Univ., Riverside. Inst. of Geophysics and Planetary Physics.
FEASIBILITY STUDY FOR DEVELOPMENT OF HOT-WATER

GEOTHERMAL SYSTEMS Final Technical Report

James B. Combs Mgr. 1973 126 p refs (Grant AF-AFOSR-2393-72; ARPA Order 2184)

(AD-771016; IGPP-UCR-73-18; AFOSR-73-2070TR) NTIS CSCL 10/2

The investigation has been directed toward a feasibility study for the development of hot-water geothermal systems for potential Department of Defense use as on energy source. The research effort has included the gathering of both scientific and angineering data. The world-wide occurrence of both known and probable sites of hot-water (water-dominated) geothermal systems particularly in relation to United States Department of Defense installations are reviewed and discussed. Included are the geological settings and the types of detection techniques that are necessary to delineate geothermal systems. GRA

N74-17804# Energy Research Corp., Bethel, Conn. high powered flame heated thermionic power SOURCE MODULE Final Report, 1 Jun. 1971 - 1 Jun. 1973

Richard E. Engdahl, Joseph F. Engelberger, and B. S. Baker Dec. 1973 71 p refs

(Contract DAAB07-71-C-0222; DA Proj. 177-62705-A-053) (AD-771959; ECOM-0222-F-71) Avail: NTIS CSCL 10/2

Drawing upon technology acquired in the development of a 100 watt flame-heated thermionic diode, the contractor addressed the development effort toward a scale up to 1300 watts. The design concept called for a multiplicity of diodes serially connected in a single module. This was deemed necessary to minimize losses in power extraction and in power conditioning. Accomplishments included fabrication of SiC flame barriers in the size required and development of multiple layer refractory metal and insulation assembly techniques using chemical vapor deposition. (Modified author abstract) GRA

N74-17806# Energy Research Corp., Bethel, Conn. SECONDARY ZINC-OXYGEN BATTERIES Final Report, Jun. 1972 - Jun. 1973 M. Klein Nov. 1973 46 p refs

(Contract DAAB07-72-C-0272)

(AD-771961; ECOM-0272-F-72) Avail: NTIS CSCL 10/3

The report describes research and development leading to the construction of a long life high energy density sealed zinc-oxygen secondary battery which is capable of operating over the range of temperatures and rates compatible with Army communications and surveillance equipment. It includes investigations and screening of inorganic separator materials. optimization of the rechargeable zinc electrodes, investigation of various rechargeable oxygen electrode schemes, including bifunctional and monofunctional electrodes, and design, fabrication and testing of a lightweight sealed 6 volt, 25 ampere-hour zinc-oxygen battery.

N74-17871# Los Alamos Scientific Lab., N.Mex. SODIUM: CLEAN-ENERGY STORAGE MEDIUM FOR VEHICULAR POWER W. K. Brown Sep. 1973 10 p refs

(Contract W-7405-eng-36) (LA-5406-MS) Avail: NTIS HC \$4.00

Metallic sodium is proposed as an energy storage medium to provide pollution-free power for virtually all forms of land. ses, and air transportation, Ideally, electrical energy from efficient. central, nuclear-powered plants would be used in the reduction of ordinary salt to sodium, which would subsequently be carried in vehicles and reacted with water to produce mechanical energy in a hydrogen-fueled engine. Lye, the sole combustion product, would be recycled for continuing use. The scheme appears to offer a competitive alternative to the use of cryogenic hydrogen Author (NSA) for vehicular power.

N74-18007*# Eason Oil Co., Oklahoma City, Okla. EVALUATION OF THE SUITABILITY OF SKYLAB DATA FOR THE PURPOSE OF PETROLEUM EXPLORATION Quarterly Report, Oct. - Dec. 1973 Robert J. Collins, Principal Investigator Dec. 1973 4 p EREP (Contract NA59-13297) (F74-10331: NASA-CR-136842) Avail: NTIS HC \$4.00 CSCL

There are no author-identified significant results in this report.

N74-18012*# Earth Satellite Corp., Washington, D.C STUDY OF APPLICATION OF ERTS-A IMAGERY TO FRACTURE-RELATED MINE SAFETY HAZARDS IN THE COAL MINING INDUSTRY Progress Report, 1 Jan. - 1 Mar.

Charles E. Wier, Frank J. Wobber, Principal Investigators, Orville R. Russell, Roger V. Amato, and Thomas V. Leshendok 26 Feb. 1974 5 p Prepared in cooperation with Indiana Geol. Survey FRTS

(Contract NASS-21795)

(E74-10338; NASA-CR-136847) Avail: NTIS HC \$4.00 CSCL

The author has identified the following significant results. The mine refuse inventory maps were prepared in response to a need by both the State and the coal industry. The lack of information on the scope of the problem handicapped all people concerned in drafting realistic legislation for a severance tax on coal production to raise funds for restoration of refuse sites. The inventory was conducted rapidly and economically, and demonstrated the benefits which can be derived through remote sensing methods.

N74-18073# Woods Hole Oceanographic Institution, Mass. REVIEW OF THE RESULTS FROM THE EASTERN ATLANTIC CONTINENTAL MARGIN PROGRAM OF THE INTERNA-TIONAL DECADE OF OCEAN EXPLORATION

K. O. Emery Oct. 1973 34 p refs

(Grant NSF GX-28193)

(PB-225036/3GA; WH0I-73-75; WH0I-Contrib-3218)
NTIS HC \$3.75 CSCL 08J

One of the programs of the International Decade of Ocean Exploration is a large geophysical and geological study of the eatern Atlantic continental margin. Excellent results were obtained aboard ship with a computerized system of gravity, magnetics, and seismic reflection and refraction. The cruises mapped large sediment filled basins and belts of salt dispiric structures. Some of the basins and diapirs are the sites of present petroleum production. In addition, small pagoda structures discovered on the deep ocean floor may have some promise as sources for gas. Lastly, areas of coastal upwelling, large river discharge, and open-ocean divergence were outlined as areas being exploited Author (GRA) for fish.

N74-18194# RAND Corp., Santa Monica, Calif. PETROLEUM: A PREDICTION MADE IN 1950 James H. Hayes Dec. 1973 11 p refs

(P-5135) Avail: NTIS HC \$4.00 CSCL 11H

An outline of the world petroleum situation as it relates to the United States is presented. The various geographical areas where petrolsum is found are examined with emphasis on the longevity of the sources as well as how political situations affect the accessibility of the sources. The need for replacing inaccessible sources by alternate sources and synthetic processes is examined

N74-18287# National Academy of Sciences - National Research Council, Washington, D.C. Committee on Motor Vehicle Emissions.

NAB REPORT ON TECHNOLOGICAL FEASIBILITY OF 1975-1976 MOTOR VEHICLE EMISSION STANDARDS. A CRITIQUE OF THE 1976-1976 FEDERAL AUTOMOBILE EMISSION STANDARDS FOR HYDROCARBONS AND OXIDES OF NITROGEN

May 1973 78 p refs

(Contract EPA-68-01-0402)

(PB-224863/1GA) Avail: NTIS HC \$3.75; HC also available from NTIS \$26.00/set of 8 reports as PB-224866-SET CSCL

This report covers the results of a study, by the Panels on Emission Standards and Atmospheric Chemistry, Committee on Motor Vehicle Emissions, NAS, into the basis for the Federal Motor Vehicle Emission standards for hydrocarbons and oxides of nitrogen for 1975 and later model year vehicles. The study covers the relationship between levels, emission sources, growth factors and computation of emission standards.

N74-18288# National Academy of Sciences - National Research Council, Washington, D.C. Committee on Motor Vehicle

NAS REPORT ON TECHNOLOGICAL FEASIBILITY OF 1975-1978 MOTOR VEHICLE EMISSION STANDARDS. AUTOMOTIVE SPARK IGNITION ENGINE EMISSION CONTROL SYSTEMS TO MEET THE REQUIREMENTS OF THE 1970 CLEAN AIR AMENDMENTS

May 1973 115 p refs

(Contract EPA-68-01-0402)

(PB-224862/3GA) Avail: NTIS HC \$4.25; HC also available from NTIS \$26.00/set of a reports as PB-224866-SET CSCL

This report summarizes the data available on the performance of emission control systems for spark-ignition engines that approach the degree of control required to meet the 1975 and 1976 automobile emission standards as required by the 1970 Clean Air Amendments. Emission control for conventional engines and also unconventional approaches for spark-ignition engines are discussed. The lead time necessary for production is also discussed

N74-18289# National Academy of Sciences - National Research Council, Washington, D.C. Committee on Motor Vehicle

NAS REPORT ON TECHNOLOGICAL FEASIBILITY OF 1975-1976 MOTOR VEHICLE EMISSION STANDARDS. CRITIQUE OF THE 1975 FEDERAL AUTOMOBILE EMISSION STANDARD FOR CARBON MONOXIDE, NATIONAL ACADEMY OF SCIENCES

May 1973 70 p refs (Contract EPA-68-01-0402)

(PB-224861/5GA) Avail: NTIS HC \$3.50; HC also available from NTIS \$26.00/set of 8 reports as PB-224866-SET CSCL

This report covers the results of a study, by the Panel on Emissions Standards, Committee on Motor Vehicle Emissions. NAS, into the basis for the Federal motor vehicle carbon monoxide emission standard for 1975 and later model year vehicles. The study covers the measurement of ambient CO levels, health effects, growth factors, sources, air quality models and computation of emission standards.

N74-1R291# National Academy of Sciences - National Research Council, Washington, D.C. Committee on Motor Vehicle Emissions.

NAS REPORT ON TECHNOLOGICAL FEASIBILITY OF 1975-1976 MOTOR VEHICLE EMISSION STANDARDS Final Report, Jan. 1972 - Feb. 1973

15 Feb. 1973 156 p refs

(Contract EPA-68-01-0402)

(PB-224858/1GA) Avail: NTIS HC \$4.75; HC also available from NTIS \$26.00/set of 8 reports as PB-224866-SET CSCL

Pursuant to Section 202(c) of the Clean Air Act, the Environmental Protection Agency contracted with the National Academy of Sciences to study the technological feasibility of the 1975-76 Federal Motor Vehicle Emission Standards, This is a report on that study as carried out by the Committee on Motor Vehicle Emissions and covers various topics including test procedures and certification, conventional control technology, alternative engines, in-use emissions and manufacturing, cost and producibility.

N74-18292# National Academy of Sciences - National Research Council, Washington, D.C. Committee on Motor Vehicle **Emissions**

NAS REPORT ON TECHNOLOGICAL FEASIBILITIES OF 1975-1976 MOTOR VEHICLE EMISSIONS STANDARDS. MANUFACTURABILITY AND COSTS TO PROPOSED LOW-EMISSION AUTOMOTIVE ENGINE SYSTEMS

Jan. 1973 81 p refs

(Contract EPA-68-01-0402)

(PB-224864/9GA) Avail: NTIS HC \$3.75; HC also available from NTIS \$26.00 set of 8 reports as PB-224866-SET CSCL

The Panel examined and reported the status of four domestic auto manufacturers' catalyst manufacturers' production plans for 1975-76 emission control system. Also examined was the potential production status of rotary, Diesel, and stratified charge engines. The Panel also provided an estimated resource impact of 1976 emission control systems.

N74-18294# Dow Chemical Co., Midland, Mich. CHARACTERIZATION OF PARTICULATES AND OTHER NON-REGULATED EMISSIONS FROM MOBILE SOURCES AND THE EFFECTS OF EXHAUST EMISSIONS CONTROL **DEVICES ON THESE EMISSIONS**

James E. Gentel, Otto J. Manary, and Joseph C. Valenta Mar. 1973 217 p

(Contract EPA-70-126)

(PB-224243/6GA; APTD-1567) Avail: NTIS HC \$13.00 CSCL 13B

The effect of emission control devices on the particulate emissions of an automotive power plant was investigated. Particulate mass emission rates were measured, as well as particle mass size distribution, carbon and hydrogen, tract metal, and benzoa-pyrene content of the particulate. Ammonia and aldehydes were measured in the exhaust gas condensate, and gaseous emissions were determined as a routine check on engine operating

N74-18300# Environmental Protection Agency, Research Triangle Park, N.C.

COMPILATION OF AIR POLLUTANT EMISSION FACTORS (SECOND EDITION) Apr. 1973 288 p refs Revised

(PB-223996/OGA; AP-42) Avail: NTIS MF \$1.45; SOD HC \$3.55 as EP4.9:42 CSCL 13B

Emission data obtained from source tests, material balance studies, engineering estimates, etc., have been compiled for use by individuals and groups responsible for conducting air pollution emission inventories. Emission factors given cover most of the common emission categories: fuel combustion by stationary and mobile sources; combustion of solid wastes; evaporation of fuels, solvents, and other volatile substances; various industrial processes; and miscellaneous sources. When no source test data

are available, these factors can be used to estimate the quantities of primary pollutants (particulates, carbon monoxide, sulfur dioxide, nitrogen oxides, and hydrocarbons) being released from a source or source group. Author (GRA)

N74-18303# National Academy of Sciences - National Research Council, Washington, D.C. Committee on Motor Vehicle

NAS REPORT ON TECHNOLOGICAL FEASIBILITY OF 1975-1976 MOTOR VEHICLE EMISSIONS STANDARDS. FEASIBILITY OF MEETING THE 1975-1976 EXHAUST EMISSION STANDARDS IN ACTUAL USE

Jun. 1973 251 p refs (Contract EPA-68-01-0402)

(PB-224865/6GA) Avail: NTIS HC \$6.25 HC also available from NTIS \$26.00/set of 8 reports as PB-224866-SET CSCL 138

It is examination of feasibility the panel considered the durability of proposed control systems, deterioration of components and adjustment, contamination of catalysts by fuels and labels, adequacy of the service industry, adequacy of replacement parts, the level of emissions from cars with inoperative control systems, and the availability of state programs for ensuring proper maintenance. The document also contains a Minority Report on analytical investigation of feasibility of meeting the 1975-1976 exhaust emission standards in actual use.

N74-18304# Washington Univ., Seattle.
A CRITICAL REVIEW OF MATHEMATICAL DIFFUSION MODELING TECHNIQUES FOR PREDICTING AIR QUALITY WITH RELATION TO MOTOR VEHICLE TRANSPORTATION Final Report

Donna V. Lamb, Franklin L. Badgley, and August T. Rossano Jun. 1973 96 p refs Sponsored by Wash. State Dept. of Highways, Olympia

(PB-224656/9GA: RPR-12.1) Avail: NTIS HC \$3.75 CSCL

At the request of the Washington State Department of Highways a literature review was undertaken to assess the State-of-the-art in air quality modeling as related to motor vehicle transportation problems. In addition to reviewing the published literature several private companies and governmental agencies with available models were contacted as were individuals working in the field. Models which were available for review are described and examined with respect to identification of latest State-of-theart characteristics, model applicability, and limitations. Recommendations on the use of air quality diffusion models are offered. Author (GRA)

N74-18305# National Environmental Research Center, Research Triangle Park, N.C. Control Systems Lab. ATMOSPHERIC EMISSIONS FROM THE PETROLEUM

NTIS

REFINING INDUSTRY Final Report L. L. Laster Aug. 1973 58 p refs (PB-225040/5GA;

EPA-650/2-73-017) Avail: HC \$3.50 CSCL 07A

This report summarizes the air pollution problems of the petroleum refining industry, with amphasis on gaseous emissions. A general outline of the refining processes, sources and types of pollutant emissions, and present and needed control methods is provided.

N74-18313# Esso Research and Engineering Co., Linden, N.J. Government Research Lab.

POTENTIAL POLLUTANTS IN FOSSIL FUELS

E. M. Magee, H. J. Hall, and G. M. Varga, Jr. Jun. 1973 292 p refs

(Contract EPA-68-02-0629)

(PB-225039/7GA; GRU-2DJ-73; EPA-R2-73-249) Avail: NTIS HC \$6.50 CSCL 13B

This survey presents the composition of typical U.S. fossil fuels by source location, and the extent to which the selection of coals and crude oils by geographic source can be expected to affect their composition in trace elements. The first section deals with coals produced and consumed in the United States.

A section on petroleum and shale oil includes domestic crudes and crudes from nations which export to this country. The number of elements for which statistical data on composition and geographical location exist is entirely different for crude oil and for coal. Good data and useful correlations with source locations are available for petroleum, for sulfur, nitrogen and nickel/vanadium, but not for other potential pollutants. A large body of data is available for trace elements in coal, and is examined herein. For both coal and petroleum, however, the level of trace elements present is relatively low sot that methods of sample selection and sample handing, prior to analysis, can and do present major complications in the interpretation of results.

N74-18328# Max-Planck-Institut fuer Plasmaphysik, Garching (West Germany).

DESIGN STUDY OF SUPERCONDUCTING 5 TESLA DIPOLE MAGNETS FOR MGD GENERATORS

W. Elsel and H. Muntenbruch Dec. 1972 99 p refs In GERMAN ENGLISH summary

(IPP-IV-53) Avail: AEC Depository Libraries HC \$7.00

A general design concept for a 5 tesla dipole magnet to be used in a 10 MW MHD generator was developed. The solution allows the linear dimensions of the magnet to be increased or decreased by a factor of about 2 without need of major modifications. The required dimensions and properties of the magnet are: rated field strength = 5 tesla, magnetic length = 2 m; uniformity in a volume 50 cm in diameter and about 2 m in length deviations from the rated field strength should be less than 5%; room temperature bore-circular with a diameter of 70 cm or square with sides 60 cm long. The investigations provided the basic calculations and drawings for designing the magnet system, power supply system, cryogenic system and the control and safety facilities. Various conductors, coil geometries, winding concepts, and design principles were compared. The forces in the coils as well as in the structure were calculated and estimates concerning the quench behavior were made.

Author (NSA)

N74-18403# Stevens Inst. of Tech., Hoboken, N.J.
THE HYDROGEN IC ENGINE: ITS ORIGINS AND FUTURE
IN THE EMERGING ENERGY-TRANSPORTATION-ENVIRONMENT SYSTEM

Kurt H. Weil [1973] 9 p refs

(Rept-729212) Avail: NTIS HC \$4.00

A historical review of the internal combustion engine is presented. The use of hydrogen based fuels instead of hydrocarbon fuels are discussed as a fuel source for controlling air pollution both in automobiles and in electric utilities.

N74-18406# National Academy of Sciences - National Research Council, Washington, D.C. Committee on Motor Vehicle Emissions

NAS REPORT ON TECHNOLOGICAL FEASIBILITY OF 1975-1976 MOTOR VEHICLE EMISSION STANDARDS. AN EVALUATION OF ALTERNATIVE POWER SOURCES FOR LOW-EMISSION AUTOMOBILES, NATIONAL ACADEMY OF SCIENCES

Apr. 1973 161 p refs (Contract EPA-68-01-0402)

(PB-224859/9GA) Avail: NTIS HC \$4.75; HC also available from NTIS \$26.00/set of 8 reports as PB-224866-SET CSCL 21E

The panel has evaluated several near and long term alternative power systems including diesel, gas turbine Rankine cycle and Stirling engines. In addition electric vehicles and alternative fuels were studied. Various aspects of each engine-system was considered including emissions, fuel economy, noise, cost size and weight, produceability and driveability. The report also discusses the lead time necessary to begin limited and mass production of each system.

N74-18407# National Academy of Sciences - National Research Council, Washington, D.C. Committee on Motor Vehicle Emissions.

NAS REPORT ON TECHNOLOGICAL FEASIBILITY OF 1976-1976 MOTOR VEHICLE EMISSION STANDARDS. EVALUATION OF CATALYST AS AUTOMOTIVE EXHAUST TREATMENT DEVICES, NATIONAL ACADEMY OF SCI-FNCES

Mar. 1973 85 p refs (Contract EPA-68-01-0402)

(PB-224860/7GA) Avail: NTIS HC \$3:75 HC also available from NTIS \$26.00/set of 8 reports as PB-224866-SET CSCL

The report covers investigations into the availability of catalyst for oxidation and NOx reduction with sufficient activity and stability, the causes of aging, and the interaction of catalysts with hardware modifications. The report also examines the raw material availability, manufacturing and maintenance problems and the toxicology of debris. The panel also discusses several remaining problem areas.

N74-18414# AiResearch Mfg. Co., Phoenix, Ariz.
LOW NOX EMISSION COMBUSTOR DEVELOPMENT FOR AUTOMOBILE GAS TURBINE ENGINES Final Report,

11 May 1971 - 30 Nov. 1972 D. W. Dawson, K. A. Hanson, and R. C. Holder Feb. 1973 273 p refs

(Contract EPA-68-04-0014)

(PB-225133/8GA: AT-6097-R12; APTD-1374) Avail: NTIS

HC \$15.75 CSCL 21E

Thirty-five combustor configurations were tested to determine emission characteristics. Chemical kinetics of emissions formation are discussed. A design technique that achieved significant NOx reductions in a gas turbine combustor was demonstrated. This technique involved the application of recuperator (or regenerator) bypass air directly into the combustor primary zone. The vaporizer combustor resulted in the most significant improvement by the use of bypass flow. The optimum low emissions engine would use an engine cycle and variable bypass flow that have been matched to provide the best balance between fuel economy and related emissions. Variable recuperator bypass is a simple and convenient alternative to variable combustor geometry. The required control system is simpler and has the potential of: lower cost; higher reliability; and better maintainability.

N74-18417# Systems Research Labs., Inc., Dayton, Chio. INVESTIGATION IN ENERGY TRANSFER AND ENERGY CONVERSION FOR ADVANCED POWER AND PROPULSION SYSTEMS Final Report, 18 Mar. 1970 - 16 Mar. 1973 C. Calvert and J. Watson Oct. 1973 120 p. refs (Contract F33615-70-C-1515; AF Proj. 7116) (AD-771581; ARL-73-0122) Avail: NTIS CSCL 10/2

The report covers the work done in three areas of energy conversion and transfer involving fluid dynamic processes: electrofluiddynamic energy conversion, multicomponent flow research, and aerodynamic energy transfer research. The effort under item one was an exploration of direct energy conversion of fluid dynamic energy into electrical power using electrofluiddynamic (EFD) processes. The objective here was to identify workable and practical processes and designs for superior, lightweight, reliable, electrical generators. Item two covers studies of methods by which heat energy from reactions of solid particles or droplets contained in a combustion or reaction chamber can be used to produce fluid dynamic energy. The principal objective of this work was to assess wall erosion, particle suspension, and related fluid dynamic processes and components germane to practical thrust augmentation ejectors. The objective was to identify appropriate design concepts applicable to future vertical or short-field take-off-and-landing aircraft. (Modified author GRA abstract)

N74-18557*# National Aeronautics and Space Administration.
Lewis Research Center, Cleveland, Ohio.
LIGHT BULB HEAT EXCHANGER FOR MAGNETOHYDRODYNAMIC GENERATOR APPLICATIONS PRELIMINARY EVALUATION

J. Marlin Smith, Charles C. Hwang (Pittsburgh Univ.), and George Seikel, R. Washington Mar. 1974–29 p. refs (NASA-TN-D-7534; E-7593) Avail: NTIS HC \$3.25 CSCL 20M

The light-bulb heat-exchanger concept is investigated as a possible means of using a combustion heat source to supply energy to an inert gas MHD power generator system. In this concept, combustion gases flow through a central passage which consists of a duct with transparent walls through which heat is transferred by radiation to a radiation receiver which in turn heats the inert gas by convection. The effects of combustion-gas emissivity, transparent-wall-transmissivity, radiation-receiver emissivity, and the use of fins in the inert gas coolant passage are studied. The results indicate that inert gas outlet temperatures of 2500 K are possible for combustion temperatures of 3200 K and that sufficient energy can be transferred from the combustion gas to reduce its temperature to approximately 2000 K. At this temperature more conventional heat exchangers can be used.

Autho

N74-18582# Mitre Corp., McLean, Va.
SYMPOSIUM ON ENERGY, RESOURCES AND THE
ENVIRONMENT. VOLUME 1: SESSION ON INTERNATIONAL ISSUES

12 Apr. 1972 227 p Conf. held at McLean, Va., 12 Apr. 1972 Revised 3 Vol.

(M72-69-Vol-1-Rev-2) Avail: NTIS HC \$14.50

Technological and capital requirements to meet the growing international storage in energy by better and expanded exploitation of resources is discussed. Interwoven aspects of limited growth versus full scale growth societies are considered. For individual titles, see N74-18583 through N74-18590.

N74-18583 Mitre Corp., McLean, Va. INTRODUCTORY REMARKS

Charles A. Zraket In its Symp. on Energy, Resources and the Environment, Vol. 1 12 Apr. 1972 p 1-12

The interrelationships or linkages between economic growth, environmental impact, international problems, and definition of a consensual ethic in the worldwide energy sources development are discussed. It is stipulated that the increasing real costs of energy have a decisive impact on all policies of decision makers and that alternatives need to be developed on research in resource exploration and extraction. G.G.

N74-18584 Hudson Inst., Inc., Croton-on-Hudson, N.Y. CONTEXT OF THE SESSION THEME, INTERNATIONAL ISSUES

Robert B. Panero In Mitte Corp. Symp. on Energy, Resources and the Environment, Vol. 1 12 Apr. 1972 p 13-28

A study framework is projected that considers the context for international issues on energy demands, energy sources, and environmental values. Various possible prospective views are explored that project growth on resource dependence for various economic areas of the globe.

G.G.

N74-18585 Massachusetts Inst. of Tech., Cambridge. COMPUTER SIMULATION OF WORLD DYNAMICS AND IMPLICATIONS FOR POLICY DECISIONS

Jay Forrester In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 1 12 Apr. 1972 p 29-48.

It is stipulated that energy and resource policies are coupled to social issues. The effects of technology in social breakdown are stressed and it is suggested that energy demands should not be fully met for the long term good of society. Instead, the growth rate in the use of energy and resources should be gradually reduced so that demands no longer rise. The inevitable slowing of growth requires adjustment of our system policies on ethics, rightness, and humanitarianism to new concepts of human equality.

G.G.

N74-18586 Hudson Inst., Inc., Croton-on-Hudson, N.Y.
ECONOMIC BASIS FOR ENERGY AND RESOURCE USE
Herman Kahn In Mitre Corp. Symp. on Energy, Resources and
the Environment, Vol. 1 12 Apr. 1972 p 48-104

An aconomic basis for energy and resource use to solve international societal problems in the future is presented. G.G.

N74-18587 California Univ., Livermore. Lawrence Livermore

ENERGY IN GENERAL

Glenn C. Werth In Mitre Corp. Symp. on Energy Resources and the Environment, Vol. 1 12 Apr. 1972 p 105-136 refs

Technical aspects of providing energy and utilizing resources for world-wide demand are considered. Projected energy flow patterns recognize growth demands fossil fuel reserves that require definite economic and technological adjustments. Better utilization of the coal and oil shale resources can be obtained by secondary and tertiary recovery methods such as water flood and fire flood, or nuclear explosions, a move to gasefying coal underground also seems to be feasible. Nuclear breader reactor development is technically proven but economic feasibility must be considered. Solar energy source developments require storage facilities in principle; hydrogen seems to be the best product to be used as a fuel and possible for transportation markets. Emphasis is placed on making all these fuel resources available at acceptable prices for the world's community.

N74-18588 Mitre Corp., McLean, Va. THE INTERNATIONAL ASPECTS OF IMPORTING NATURAL GAS

Robert A. Charpie In its Symp. on Energy, Resources and the Environment, Vol. 1 12 Apr. 1972 p 136-153

Importation of liquefied natural gas from Algeria to eliminate the expected natural gas shortage in the U.S.A. requires the adjustment of regulatory limitations to foreign currencies, the building of cryogenic tankers to transport liquid methane, and the building of terminal facilities in the east coast of the United States.

N74-18589 Massachusetts Inst. of Tech., Cambridge. REMARKS

Jay Forrester In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 1 12 Apr. 1972 p 154-157

The question whether or not the required capital will be available if technology did manage to meet energy and resource shortages, mounting pollution, and food shortages, is considered. Solving this real problem by a computer simulation model demands internal consistency between present assumptions and future expectations in technology, sociology, value structures, and long term versus short term conflicts.

G.G.

N74-18590 Hudson Inst., Inc., Croton-on-Hudson, N.Y. REMARKS

Herman Kahn In Mitre Corp. Symp. on Energy, Resources and Environment, Vol. 1 $\,$ 12 Apr. 1972 $\,$ p $\,$ 157-170

World capital requirements to meet energy and resources shortages in 2100 relative to GNP will be about five to one. In order to maintain this projected growth to the year 2100 an accumulation of about two quadrillion dollars worth of capital is necessary. It is stipulated that capital accumulation of five percent a year does not seem to be a problem for the U.S.A.

G.G

N74-18591# Mitre Corp., McLean, Va.

SYMPOSIUM ON ENERGY, RESOURCES AND THE ENVIRONMENT. SESSION ON ETHICS AND ENVIRONMENTAL ASPECTS OF THE DEMAND FOR AND USE OF ENERGY, VOLUME 2

13 Apr. 1972 253 p Conf. held at McLean, Va., 13 Apr. 1972 Revised 3 Vol.

(M72-69-Vol-2-Rev-1) Avail: NTIS HC \$15.75

Environmental ethics affect research and development of alternative energy sources as well as the more efficient exploitation of existing resources leading to a more equal distribution of

wealth and the socioeconomic burden in a population.

N74-18592 Virginia Univ., Charlottesville. NATIONAL ENERGY POLICIES

Fred Singer In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 2 13 Apr. 1972 p 2-27

It is stressed that socioeconomic considerations require the development of abundant and low cost energy in a national policy. The energy should be environmental clean and reasonable self-sufficient to insure long term national security. Public policies and regulations and a lead agency are required to assume these responsibilities and to fund the various sources of energy exploration. G.G.

N74-18593 California Univ., Livermore. Lawrence Livermore

AN ENERGY ETHIC

Marvin R. Gustavson In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 2 13 Apr. 1972 p 28-67

The development of a consensual energy ethic is projected that leads to public agreement as to what is fair in respect to the various aspects of source development. Key issues are: Source development -- particularly of fossile fuel; energy use -- as affected by education, advertising, and legislation; (3) nationalism -- in the national security sense as seen by a citizen of a consuming nation; (4) pollution -- as a negative factor in the quality of life; (5) Federal funding -- as an element of public support; and (6) fusion reactors -- as an example of a possible technological key to abundant energy.

N74-18594 Mitre Corp., McLean, Va. ISSUES INVOLVED IN DEVELOPING AN ENVIRONMENTAL ETHIC

S. David Freeman In its Symp. on Energy, Resources and the Environment, Vol. 2 13 Apr. 1972 p 68-89

Issues involved in developing energy and environmental ethics rest on a basic collision of values between a society that is built on an abundant supply of energy and a society that has adopted an environmental concern. It is shown that the U.S. consumes thirty to thirty-five percent of the world's resources each year with six percent of the world's population and that the rest of the world is two-thirds in a perpetual blackout. A policy of conservation and saving, and a more even distribution of the world's resources necessitates inherent redistribution of wealth until research and development efforts produce more environmentally compatible sources of energy.

N74-18595 Mitre Corp., McLesn, Va. ENVIRONMENTAL ISSUES AND INSTITUTIONAL AR-RANGEMENTS

John F. OLeary In its Symp. on Energy, Resources and the Environment, Vol. 2 13 Apr. 1972 p 90-135

A comprehensive set of energy, resource and environmental issues is presented. Some changes to governmental institutions for dealing with the energy crisis are described that encompass pricing, depletion allowances, oil imports, and environmental regulations.

G.G.

N74-18596 Harvard Univ., Cambridge, Mass. MECHANISMS FOR ACHIEVING CLEANER POWER. PRICES, REGULATIONS

Marc Roberts In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 2 13 Apr. 1972 p 136-187

The following three policy mechanisms to achieve cleaner power are appraised: prices, regulation, and direct public provision. It is shown that the resource-environmental-energy linkup at the current level of pollution is due to multiplicative interaction of the amount of output per capita, the number of people, and the amount of pollution per unit output. The need for shifting some

of the distribution impact of the projected financing burden from the poor population is emphasized.

N74-18597 Mitre Corp., McLean, Va. ENVIRONMENTAL ISSUES, AN OVERVIEW Richard S. Greeley In its Symp. on Energy, Resources and the

Environment, Vol. 2 13 Apr. 1972 p 188-208

The environmental issues discussed are: (1) Waste heat and its effect on temperature of the earth; (2) air pollution by scoot, sulfur and auto emissions; (3) radioactivity in catastrophic accident and local release, at background levels, and in the forever problem; (4) power plant and industrial facility siting; (5) strip and open pit mining; (6) offshore exploration and drilling; (7) wilderness and remote area exploitation; and (8) zero growth projection. It is concluded that in the long run the conservation of energy in order to conserve the environment cannot be overlooked and that research and development to find alternative resources will increase the energy cost factor markedly.

G.G.

N74-18598# Mitte Corp., McLean, Va.
SYMPOSIUM ON ENERGY, RESOURCES AND THE
ENVIRONMENT. VOLUME 3: SESSION ON OPTIONS FOR
THE FUTURE AND THEIR RESOURCES, ECONOMIC, AND
ENVIRONMENTAL EFFECTS

14 Apr. 1912 9198 p refs Conf. held at McLean, Va. 14 Apr. 1972 Revised 3 Vol.

(M72-69-Vol-3-Rev-1) Avail: NTIS HC \$13.00

Energy demands and sources are considered and economic and environmental aspects of future resource developments are discussed. For individual titles, see N74-18599 through N74-18604.

N74-18599 Atomic Energy Commission, Washington, D.C. ENERGY OPTIONS FOR THE FUTURE Clarence E. Larson *In* Mitre Corp. Symp. on Energy, Resources, and the Environment, Vol. 3 14 Apr. 1972 p 1-20.

New technologies in energy conversion and new energy resources are considered that range from electric cars, solar energy conversion, magnetohydrodynamic power, geothermal energy, and nuclear fusion processes. The dominant role of the liquid metal cooled breeder reactor for providing future energy is emphasized G.G.

N74-18600 Institute of Energy Economics of Japan.
ENERGY DEMAND IN JAPAN, 1975 TO 1985
Masao Sakisaka In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 3 14 Apr. 1912 p 20-31

The outlook on Japanese demand for energy and supplies for meeting this demand until 1985 is discussed. Indigenous sources of energy will meet only seven percent of the total energy demand; this neccessitates the development of electric nuclear power plants in Japan and of uranium resources in overseas countries. Disposal of radioactive wastes poses a serious environmental problem.

G.G.

N74-18602 Citizens' Advisory Committee on Environmental Quality, Washington, D.C.
MAJOR R&D PROGRAMS TO MEET THE ENERGY CRISIS Lelen F. Sillin, Jr. In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 3 14 Apr. 1972 p 68-80 ref

The review of restrictive environmental protection laws and regulations is advocated in order to construct and operate new power facilities that insure increased electric energy demands for future economic growth in the U.S. Long term payoffs for society require power supply systems which produce and transmit abundant, reliable and cheap power without depletion of natural resources. Research on the use of solar energy, fusion power, large scale production of hydrogen, or an optimum blending of several of these concepts is projected for future energy supply systems.

G.G.

N74-18603 Sierra Club, Washington, D.C. Energy Policy Committee:

MAN VERSUS HIS INSTITUTIONS

Keith Roberts In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 3 14 Apr. 1972 p 83-109 ref

The goals of a rational energy policy encompass: (1) limitation of total energy consumption to those amounts necessary for a quality of life compatible with the carrying capacity of the environment; (2) use of a combination of energy sources for maximum efficiency; (3) minimization of ecological disruption. aesthetic harm, or damage to human and animal health; (4) public policy making procedures to achieve above goals; and (5) elimination of undue special interest propaganda based on one-sided facts.

N74-18604 Office of Science and Technology, Washington, D.C.

ENERGY OPTIONS

Richard E. Balzhiser In Mitre Corp. Symp. on Energy, Resources and the Environment, Vol. 3 14 Apr. 1972 p 109-129

Technological options to solving the energy problem constitute development of the liquid metal gas breeder reactor to produce nuclear energy; coal gasification to produce a synthetic natural gas; and SO2 removal technology from stack gases to permit high sulfur coal burning. Fusion, solar, and geothermal energies are prime candidates for supplementing above primary needs.

N74-18605# Committee on Aeronautical and Space Sciences (U. S. Senate).

ENERGY-RELATED RESEARCH AND DEVELOPMENT

Washington GPO Mar. 1974 95 p refs Presented to Comm. on Aeron. and Space Sci., 93d Congr., 2nd Sess., Mar. 1974 Prepared by NASA, Washington, D. C. Avail: SOD HC \$1.00

Technology developed for space and aeronautics has useful applications to energy needs and problems on earth. The specific research and development projects include work in solar energy utilization, including wind energy systems; energy conversion, transmission and storage; transportation systems; and energy and environment conservation. Programs in aeronautics and space which are directly relevant to energy include remote sensing applied to energy resources, fuel conservation in aeronautics, energy consversion and storage, and space and nuclear technology. The transfer to the private sector of aeronautical and space technology applicable to energy needs is another way in which significant contributions are made in energy research and development. Author

N74-18606# RAND Corp., Santa Monica, Calif. THE POTENTIAL FOR ENERGY CONSERVATION IN COMMERCIAL AIR TRANSPORT

James J. Mutch Oct. 1973 90 p refs

(Grant NSF GI-44)

(R-1360-NSF) Avail: NTIS HC \$7.50

The potential is examined for reducing the energy requirements of the U.S. commercial airlines, with emphasis on the certificatedroute air carriers. Measures stressed are independent of the level of traffic demand. They are intended to reduce energy requirements by decreasing the energy intensity of air transport. The possibility is examined of substituting more efficient transport modes for aviation in short-haul routes and the attendant net energy savings is assessed. Measures that yield benefits in both the short and long term are considered and their conservation potentials are quantified relative to present and future energy requirements. The results should be of interest to those involved in airline activities, including governmental regulatory and policymaking bodies, industry groups, and the airlines themselves.

N74-18607# RAND Corp., Santa Monica, Calif. TRANSPORTATION ENERGY USE IN THE UNITED STATES: A STATISTICAL HISTORY, 1955 - 1971 James J. Mutch Dec. 1973 54 p refs

(Grant NSF GI-44)

(R-1391-NSF) Avail: NTIS HC \$5.75

Total transportation energy consumption is considered in view of increased travel per person and an increasing use of more energy intensive modes. Energy distribution for modes and markets / is shown from 55 to 71 in graphical form. Freight and passenger transportation on highways, aircraft, railroads, and waterways are also reviewed. J.A.M.

* N74-18609# United Nations, New York. Economic and Social

NATURAL RESOURCES DEVELOPMENT AND POLICIES INCLUDING ENVIRONMENTAL CONSIDERATIONS. ADDENDUM: CHANGING PATTERNS IN THE WORLD **ENERGY SITUATION**

12 Jan. 1971 40 p refs

(E/C.7/2/Add.1) Avail: NTIS HC \$5.00

The consumption and production of energy worldwide are cited. Special attention was given to the close interrelationship between energy use and economic development. Energy demand as affected by industrialization, urbanization, and mechanization are disucssed. Statistical tables covering consumption and energy supplies from 1950 to 1968 are included.

N74-18610# Cranfield Inst. of Technology (England). THE ASSESSMENT OF AN AIR-SUPPORTED AND PRO-PELLED URBAN TRANSPORT SYSTEM Final Report Roger Slevin Dec. 1972 115 p refs (Cranfield-CTS-1) Avail: NTIS HC \$8.75

The results are reported of a one-year study intended to assess the usefulness of a new transport technology; that of an urban eir-supported and propelled system. The technology is described and its qualitative and quantitative assessment is reported in both absolute and comparative terms. It is concluded that the proposed system has several features which make its application unlikely; in particular there are safety problems, and there is no positive evidence that overall costs would be tower than existing competing modes in conventional circumstances. As a result it is not recommended that any further development of the technology should take place. The report is written as an account of the work undertaken. In this way it provides a guide to the process for future studies of this type. Author

N74-18622# Committee on Interior and Insular Affairs (U. S. Senatel

ENERGY CONSERVATION AND S. 2176, PART 2

Washington GPO 1973 845 p refs Hearing on S. 2176 before Comm. on Interior and Insular Affairs, 93d Congr., 1st Sess.) 1 Aug. 1973

Avail: Comm. on Interior and Insular Affairs

Hearings are reported describing the role of energy conservation in national energy policy. Conservation in transportation, housing, and in the industrial sector are emphasized. Ways to educate consumers to use energy more efficiently especially regarding motor vehicles and home appliances are outlined.

N74-18523# Decision Sciences Corp., Jenkintown, Pa. QUANTITATIVE ENERGY STUDIES AND MODELS: STATE OF THE ART REVIEW

Dilip R. Limaye, Robert Ciliano, and John R. Sharko [1973] 50 p refs Sponsored by Council on Environmental Quality, in that demonstration can be applied to several areas of technology. Even if there is uncertainty about some of the underlying data. military goods and services should be expressed in terms that uniformly reflect Soviet rather than U.S. manufacturing methods and input quantities. Author (GRA)

N74-18633# Transportation Systems Center, Cambridge, Mass

ENERGY STATISTICS: A SUPPLEMENT TO THE SUMMARY OF NATIONAL TRANSPORTATION STATISTICS Final Report, Jun. - Jul. 1973 Gill V. Hicks Sep. 1973 94 p refs (PB-225331/8GA; DOT-TSC-OST-73-34)

NTIS

HC \$3.75 CSCL 05C

The report is a compendium of selected time series data describing the transportation, promotion, processing, and consumption of energy. The report is divided into three main sections. The first contains such items as the revenues and expenses of oil pipeline companies, number and capacities of U.S. tank ships, and the total crude oil transported in the U.S. by methods of transportation. The second section reveals the growth over time of the U.S. oil and natural gas reserves, refinery capacity, and yields. Trends in demand for fuel and power are displayed in the third section. Throughout this part, the transportstion sector is emphasized. Included are the pasoline and oil costs of automobiles of different sizes, the consumption of petroieum by type of product, the energy intensiveness of the air carriers, the electrical energy consumed by the local transit industry and other important statistics describing the supply and demand for energy

N74-18634# Kentucky Univ., Lexington. Coll. of Engineering. PROCEEDINGS: ENERGY RESOURCE CONFERENCE

Aug. 1973 59 p. Conf. held at Lexington, Ky., 24-25 Oct. 1972

(PB-224750/0GA: UKY-TR-70-73-CEED4) Avail: NTIS HC \$5.00 CSCL 10A

Recent available information on the rapidly changing energy resource picture, fuel policies and consumer demands is presented. Papers by knowledgeable government officials and industrial representatives are included. Topics covered include new developments in the extraction of natural gas and crude oil. interfuel conversion (coal to gas and oil, coal to gas by the Lurgi process, SNG and oil), the role of the Federal Government to insure an adequate, reliable energy supply, and the transmission and transportation of energy.

N74-18638# Defense Documentation Center, Alexandria, Va. ENERGY CONVERSION Report Bibliography, Jan. 1974 -Aug. 1973

Jan. 1974 409 p. refs (AD-771750; DDC-TAS-74-2) Avail: NTIS CSCL 10/2

The bibliography is a compilation of 287 references on Energy Conversion. Citations are sequenced numerically within each of the following categories: (1) Fuel Cells; (2) Mineral Fuels; (3) Nuclear Energy: (4) Solar Energy: (5) Steam Power: (6) Thermionic Generators, (7) Thermoelectric Generators; (8) Geopolitical Energy Studies, and (9) Miscellaneous Studies. Corporate Author-Monitoring Agency, Subject, Title, Personal Author, Contract Number, and Report Number Indexes are included.

Author (GRA)

N74-18720 Tularle Univ., New Orleans, La. INVESTIGATION OF ENERGY CONVERSION IN RAPIDLY CYCLING FUEL CELLS. 1. A SYSTEM FOR STUDYING THE SURFACE DIFFUSION OF HYDROGEN ON METALS, 2 Ph.D. Thesis

Vasudev Dayanand Prabhu 1973 268 p Avail: Univ. Microfilms Order No. 74-320

By rapidly cycling the fuel cell, energy conversion techniques can be applied to design a mechanical device called an electrochemical pump. The cycle efficiency and performance of the electrochemical pump is studied by means of transient fuel cell and electrolysis operation of the ion exchange membrane fuel cell. Performance characteristics of the cell during rapid cycling operation are presented and critically analyzed. A system for experimentally measuring surface diffusion is designed and constructed. The surface diffusion of tritium can be obtained by monitoring the radioactivity of adsorbed tritium versus distance along a metal surface with the help of a low energy beta detector. A critical analysis of results in terms of energies of tritium and noise level encountered during experiments is presented.

Dissert. Abstr.

N74-18721*# Georgia Inst. of Tech., Atlanta. School of Mechanical Engineering.
COMPARATIVE EVALUATION OF SOLAR, FISSION, FUSION, AND FOSSIL ENERGY RESOURCES. PART 1:

SOLAR ENERGY Final Report

J. R. Williams 23 Jan. 1974 122 p refs

(Grant NGR-11-002-166)

(NASA-CR-137242) Avail: NTIS HC \$9.25 CSCL 10A

The utilization of solar energy to meet the energy needs of the U.S. is discussed. Topics discussed include: availability of solar energy, solar energy collectors, heating for houses and buildings, solar water heater, electric power generation, and ocean FOS thermal power.

N74:18723# Joint Publications Research Service, Arlington,

THERMAL CYCLE AND EFFICENCY OF A VERSATILE POWER UNIT WITH A MAGNETOHYDRODYNAMIC GENERATOR AND THERMOELECTRIC GENERATOR

V. A. Kirillin, A. Ye. Sheyndlin, Ye. M. Shelkov, Ye. V. Shishkov, S. A. Pashkov, and V. M. Latyshev 1 Mar. 1974 8 p. refs Transl, into ENGLISH from Teplofiz, Vysokikh Temperatur, Akad. Nauk SSSR (Moscow), v. 11, no. 5, 1973 p 1088-1091 (JPRS-61359) Avail: NTIS HC \$4.00

A MHD generator circuit is described with an overload mode capacity making operation possible in a wide range of loads.

N74-18724# National Bureau of Standards, Washington, D.C. Building Environment Div.

TECHNICAL OPTIONS FOR ENERGY CONSERVATION IN BUILDINGS Final Report

Jul. 1973 186 p. refs. Prepared for Natl. Conf. of States on Building Codes and Standards and NBS Joint Emergency Workshop on Energy Conserv. in Buildings, Washington, D. C., « 19 Jun. 1973

(NRS-TN-789) Avail: SOD HC \$2.35 Domestic Postpaid or \$2.00 GPO Bookstore as C13.46:789

Actions pertinent to existing buildings and new buildings are described. Regarding existing buildings, principal topics include summer cooling, winter heating, and other energy conserving features--i.e., insulation, fenestration, lighting, appliances, domestic hot water, and human comfort. Suggested actions include those which can be accomplished voluntarily or without expense, and also actions which require some modest effort or expense on the part of the building owner or occupant. Regarding new buildings, energy conservation actions are described that deal with building design and mechanical systems. The report concludes with a summary of mechanisms for implementation of such actions and criteria for use in evaluation of them.

N74-18725# Union Electric Co., St. Louis, Mo. RECYCLING SOLID WASTE FOR UTILITY FUEL AND RECOVERY OF OTHER RESOURCES

Earl K. Dille and David L. Klum 1973 17 p refs Presented at 1973 Frontiers of Power Technol., Stillwater, Okla. Sponsored by City of St. Louis

Avail: NTIS HC \$4.00

Full scale prototype testing to determine the feasibility of processing municipal solid waste to produce supplementary fuel for electric utility boilers and to recover recycleable, noncombustible materials has been conducted. Operation of the prototype was satisfactory during the first year with the exception of milled solid waste mechanical handling problems. Crushed glass in the solid waste resulted in excessive wear and maintenance of solid waste pneumatic transport piping bends and elbows. Metals and oversize pieces of wood caused frequent stoppages of solid waste transport system mechanical feeding equipment. The mechanical handling problems were identified soon after the initial operation and it appeared clear that the material presented no other operating problems at the processing plant or in furnace combustion. Consequently, engineering design and purchase of a mechanical air separator (air classifier) was initiated to provide for the removal of glass, metals, and other unburnable materials.

N74-18727*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio. COMPUTER PROGRAM FOR THERMODYNAMIC ANALYSIS OF OPEN CYCLE MULTISHAFT POWER SYSTEM WITH MULTIPLE REHEAT AND INTERCOOL

Arthur J. Glassman Washington Mar. 1974 66 p ref (NASA-TN-D-7589; E-7518) Avail: NTIS HC \$3.75 CSCL 10A

A computer program to analyze power systems having any number of chafts up to a maximum of five is presented. On each shaft there can be as many as five compressors and five turbines, along with any specified number of intervening intercoolers and reheaters. A recuperator can be included. Turbine coolent flow can be accounted for. Any fuel consisting entirely of hydrogen and/or carbon can be used. The program is valid for maximum temperatures up to about 2000 K (3600 R). The system description, the analysis method, a detailed explanation of program input and output including an illustrative example, a dictionary of program variables, and the program listing are explained.

N74-19729# Los Alemos Scientific Leb., N.Mex.
AND WHAT IF WE WERE TO SWITCH TO HYDROGEN?
Yu. Medvedev and E. Muslin 1973 25 p Transl. into ENGLISH from (zobret. izobret. i Rataionalizatsiya, Irkutskii (Irkutsk), no. 318. 1973 p 40-44

(LA-TR-73-40) Avail: NTIS NC \$3.25 The use of ordinary water as a fuel source from which to derive hydrogen is proposed. The production of hydrogen by the reactions of the Mark-1 process and the process with iron-carbon catalyzers is discussed. The pipelines and transport of hydrogen with its applications to fuel sources or everyday life are discussed. It is predicted that it will be possible to establish a powerful food chain depending neither on agriculture nor on oil reserves and based only on atomic energy. Scientists have been trying, with the aid of hydrogen yeast to obtain food from carbon dioxide, mineral salts, and hydrogen obtained with electrolysis of water by current from solar batteries. The same hydrogen and oxygen could serve as an energy source for fuel cells.

N74-18730# Electricity Commission of New South Wales, Sydney (Australia).

ELECTRICITY: THE CONVERSION INDUSTRY

N. B. Heal 1973 10 p refs (NP-19837) Avail: AEC Depository Libraries HC \$3.00

Planning of future electric power supplies is considered with specific reference to Australia. Topics covered include fuel reserves, fuel costs, electricity supply today, planning future supplies, energy transport, and the effect of changes on the consumer. Coal, uranium, and possibly natural gas coal reserves are clearly adequate to provide a supply of fuel at reasonable costs for power generation for well into the next century. In comparison with uranium and coal, known reserves of crude oil and natural gas in Australia are relatively small.

N74-18731# Atomic Energy Commission, Washington, D.C. PROCESS FOR THE SIMULTANEOUS UTILIZATION OF GEOTHERMIC AND HYDRODYNAMIC ENERGY

J. E. Tavip [1974] 7 p Transl. into ENGLISH from the Spanish

(AEC TR-7475) Avail: NTIS HC \$3.00

A process is described for the utilization of hydrodynamic energy produced by water falling through a pipe inserted deeply into the earth's crust at a point where the high temperature will produce steam and is returned to the earth surface through another pipe as steam. The waterfall created by this perforation is utilized by turbines suitable for the production of electric energy while the steam produced spurts from the surface of the earth and can be used as a source of energy with multiple applications.

N74-18737# Energy Research Corp., Bethel, Conn. HIGH ENERGY SEALED NICKEL-ZINC BATTERIES Final Annual Report, 1 Mar. 1972 - 1 Oct. 1973

Allen Charkey Nov. 1973 44 p (Contract DAAB07-72-C-0114; DA Proj. 1T7-62705-A-053) (AD-772944; ECOM-0114-F) Avail: NTIS CSCL 10/3

A sealed 7 Ah/6.5 volt nickel-zinc battery has been developed

which is capable of 160-200 cycles of operation at approximately 60% depth of discharge at the C/4 rate. Initial energy density obtained was 28 Wh/lb at the C/4 discharge rate. The battery will deliver about 40% of its energy at -20F at the C/4 rate. With silver amalgam oxygen recombination electrodes the battery is capable of continuous overcharge at 0.5 amperes at a safe steady state pressure below 50 psi. Improved inorgenic separators (ERC-2002) have been developed which are chemically inert in KOH, have a uniform pore size distribution and stop the occurrence of zinc dendrites. The primary cause of failure of the battery was found to be from the zinc electrode failure. (Modified author abstract) GRA

N74-18738# Army Electronics Command, Fort Monmouth,

ZING-AIR (OXYGEN) CELL STUDIES Otto C. Wagner Nov. 1973 20 p refs (DA Proj. 1T7-62705-A-053)

(AD-772903; ECOM-4166) Avail: NTIS CSCL 10/3

Shorting by zinc penetration through the aeparator layers was prevented in zinc-air and zinc-oxygen cells by inserting a 10 mil thick partially wetproofed porous nickel layer within the layers of separator material. Excellent capacity maintenance was attained for 50 cycles from a zinc-air cell by: (a) containing the zinc anode within a plastic frame onto which the separator layers were spoxy-sealed. (b) blocking the edges of the snode with a thin plastic shield, and (c) providing a 20 to 30 mil thick electrolyte channel between the charging electrodes and separator clad anode. Preliminary results from sealed zinc-oxygen cell investigations indicate that good capacity maintenance can be attained by: (a) sealing the charging electrode within a plastic frame onto which a layer of potassium titanate paper is epoxy-sealed to the edge of the electrolyte face and a thin porous teflon layer is comented to the gas face. (b) using silver-amalgam catalyzed oxygen electrodes, and (c) adding 5% potassium titanate powder to the zinc oxide mix. Author (GRA)

N74-18815# Bureau of Mines, Washington, D.C. ENERGY POTENTIAL FROM DRGANIC WASTES: A REVIEW OF THE QUANTITIES AND SOURCES

Larry L Anderson 1972 19 p refs (BM-IC-8549) Avail: SOD HC \$.30

The quantities and sources of moisture- and ash-free organic material contained in manure, urban refuse, industrial wastes. sewage solids, and agricultural wastes in the United States are itemized and evaluated. Furthermore, estimates are presented for amounts of organic wastes collected or concentrated. The potential for fuel, either oil or gas, from both the total organic wastes generated and those collected or concentrated is also estimated. Author

N74-18888 Duke Univ., Durham, N.C. PERFORMANCE CHARACTERISTICS OF A PNEUMATIC TUBE TRANSPORTATION SYSTEM Ph.D. Thesis Joseph John Cudlin 1973 182 p

Avail: Univ. Microfilms Order No. 74-1129

The limitations and deficiencies of the conventional models of ground transportation have prompted the proposal of a number of innovative high speed systems for future urban and interurban mass transit. Those which appear to offer the most desirable operating characteristics are systems which utilize an enclosed guideway. The power requirements for high speed ground transportation are, however, potentially high. Since the power required for propulsion of surface vehicles at higher speeds is largely that needed to overcome aerodynamic drag, enclosed guideway systems, operated at reduced internal pressures, are proposed to offer a more practical means for high speed ground transportation. A pneumatic tube transportation system would propel carrier vehicles through tube guideways by the combined effects of continuous evacuation of the guideway length shead of the vehicle and the admission of air at a higher pressure to the guideway behind the vehicle. Dissert. Abstr.

N74-18892# Cranfield Inst. of Technology (England). Centre for Transport Studies.

(NRL Proj. R02-33)

(AD-772530; NRL-7615) Avail: NTIS CSCL 09/5

A conformal array on a surface of small curvature can be approximated by a number of planar arrays, several of which may be excited simultaneously so as to achieve a performance w. similar to that of a conformal array. Since the main beam of a planar array can be ateered to any direction in visible space. several arrays, each oriented in a different direction, can be steered cooperatively to form a single beam in a desired direction. A general formulation of the radiated field of such a configuration of arrays is developed with the aid of formulas which relate the components into which a vector is resolved in one orthogonal coordinate system with those into which the same vector is resolved in a second orthogonal coordinate system. (Modified author abstract)

N74-18897# Southwest Research Inst., San Antonio, Tex. Army Fuels and Lubricants Research Lab. INSTALLATION OF TURBINE-FUELS RESEARCH COMBUS-TOR LABORATORY Finel Report

C. A. Moses Dec. 1973 28 p (Contract DAAD05-70-C-0007)

(AD-772945; AFLRL-27) Avail: NTIS CSCL 21/4

A laboratory especially designed for the study of fuel-related problems in the operation of turbine engines has been installed at the U.S. Army Fuels and Lubricants Research Laboratory. The air supply system provides a clean, smooth flow of air to the combustion test cell at rates up to 2.5 lbs/sec; pressures to 16 atm and temperatures to 1500F are possible at all flow rates. The fuel delivery system is capable of pumping fuels ranging in properties from gasoline to No. 5 diesel at flow rates of over 1 gpm and pressures over 1000 psi. Up to 50 channels of thermocouple and transducer signals are sampled; the data reduction is performed on-line with test results available immediately. The system has been designed for maximum flexibility and growth. Conceivably, any combustion chamber and associated rig can be plugged-in, instrumented, and operated within the sir flow capabilities of the laboratory. Author (GRA)

N74-19047# Sandia Labs., Albuquerque, N.Mex. FRACTURE OF COAL AND OIL SHALE FOR IN SITU PROCESSING OR REMOTE REMOVAL: A PROPOSAL SUPPORT DOCUMENT

L. D. Tyler and W. D. Weart Oct. 1973 17 p refs (Contract AT(29-1)-789)

(SLA-73-946) Avail: NTIS HC \$3.00

The proposal sets forth the concept of using the synergistic effects of a combination of hydraulic and explosive techniques to fracture these formations in a controlled manner.

Author (NSA)

N74-19113 Central Electricity Generating Board, London (England). BEARINGS FOR POWER STATION PLANT. A SELECTIVE

BIBLIOGRAPHY, 1960 - SEPTEMBER 1973 E. F. Hansford, comp. Feb. 1974 26 p refs

(CE-Bib-288.1) Avail: Issuing Activity

Selected abstracts of 108 articles concerning research on bearings are presented. Areas reported include materials, lubrications, vibration, and failure. F.O.S.

N74-19117# Bureau of Mines, Morgantown, W.Va. Research Center.

NONCAKING COAL GASIFIED IN A STIRRED-BED PRODUCER Technical Progress Report

R. V. Rahfuse, G. B. Goff, and A. J. Liberatore Mar. 1974 11 p refs

(BM-TPR-77) Avail: NTIS HC \$4.00

Noncaking 0- by 2-inch subbituminous A coal from New Mexico was gasified with air and steam at 205 psig using a stirred-bed producer to determine coal losses by entrainment in the gas for this low sulfur, high ash coal which contained 20 percent particles smaller than 1/16-inch sieve size. The use of fine sized coal has particular importance because most production

from mechanized mines is smaller than 2-inch size. This initial attempt showed technical feasibility for pasifying New Mexico subbituminous cost containing small sized particles in fixed-bad producers without excessive coal loss by entrainment. Dust loss averaged about 2 percent of moisture free coal, most of which was recovered from the gas. Ash clinkering was controlled by adding 1,010 lb/hr steam to reduce temperatures in the combustion zone. Yield of low-Btu fuel gas, 150 Btu per scf. dry, amounted to 69,800 soft from 1,490 ib/hr coal (as received) and 3,450 lb/hr air (drv).

N74-1922B Environmental Protection Agency, Research Triangle Park, N.C. Air Pollution Technical Information Center. AIR POLLUTION ASPECTS OF EMISSION SOURCES: PETROLEUM REFINERIES: A BIBLIOGRAPHY WITH ABSTRACTS

Jul. 1972 73 p refs (AP-110) Avail: SOD HC \$1.25

Selected abstracts are presented of articles concerning air pollution by petroleum refineries. Subject and author indexes are included.

N74-19229 California Inst. of Tech., Pasadena. DETERMINATION OF OPTIMAL AIR POLLUTION CONTROL STRATEGIES Ph.D. Thesis

Chan Pein Kywan 1 Apr. 1974 213 p Avail: Univ. Microfilms Order No. 73-31047

One of the important environmental problems facing urban officials today is the selection and enforcement of air pollutant emission control measures. These measures take two forms: long-term controls (multiyear legislation, such as the Federal new car emission standards through 1976) and short-term controls faction taken over a period of hours to days to avoid an air pollution episode). For the long-term control problem, it is assumed that emission control procedures are changed on a year-to-year basis. The problem considered is to determine the set of control measures that minimizes the total cost of control while maintaining specified levels of air quality each year. The problem of determining real-time (short-term) air pollution control strategies for an urban airshed is posed as selecting those control measures such that air quality is maintained at a certain level over a given time period and the total control imposed is a minimum.

Dissert Abetr

N74-19240# National Academy of Sciences - National Research Council, Washington, D.C.

REPORT BY THE COMMITTEE ON MOTOR VEHICLE EMISSIONS

15 Feb. 1973 155 p Avail: NTIS HC \$10.75

The technological feasibility of meeting the motor vehicle emissions standards prescribed by law was investigated. The design, performance, and costs of emission control systems are discussed along with the standards, certification and testing. The potential of spark-ignition internal-combustion engines for passing emission certification for 1975 is analyzed. FOS

N74-19268# TRW Systems Group, Redondo Beach, Calif. A STUDY OF MANDATORY ENGINE MAINTENANCE FOR REDUCING VEHICLE EXHAUST EMISSIONS. VOLUME 7: A USER'S MANUAL AND GUIDE TO THE ECONOMIC EFFECTIVENESS COMPUTER PROGRAM Final Report Jul. 1973 385 p. refs. Sponsored by EPA and Coordinating Res. Council, Inc. 8 Vol. (PB-225161/9GA; CRC-APRAC-CAPE-13-68-15-Vol-7) Avail: NTIS HC \$8.00 CSCL 13B

This manual presents a detailed description of the Economic Effectiveness Computer program. The program provides a generalized methodology for simulating the dynamic behavior of alternative vehicle inspection and maintenance procedures. The model has been coded in FORTRAN 4 and is currently operating on a CRC 6500 System. The manual describes for the programmer/user the operating instructions required to use the program in a variety of operating modes. It is composed of five sections and two appendices which provide a discussion of the model's mathematical framework, input requirements and data formats. program debugging and output options, and a complete list of GRA flow schematics and computer listings.

N74-19269# TRW Systems, San Bernardino, Calif. Transportation and Environmental Operations.

A STUDY OF MANDATORY ENGINE MAINTENANCE FOR REDUCING VEHICLE EXHAUST EMISSIONS. VOLUME 8: EXPERIMENTAL CHARACTERIZATION OF VEHICLE EMISSIONS AND MAINTENANCE STATES Final Report Jul. 1973 203 p refs Sponsored by EPA and Coordinating Res. Council, Inc. '8 Vol.

(PB-225026/4GA; CRC-APRAC-CAPE-13-68-16-Vol-8) Avail: NTIS HC \$5.50 CSCL 13B

Data are presented which describe the rate of engine adjustment and exhaust emission deterioration with time and mileage. Three classes of vehicles are described which include pre 1966 cars without exhaust emission controls, 1966-1970 cars with HC and CO exhaust controls and post 1970 cars that are equipped to control HC, CO and NOx. The results of additional experiments to determine the repeatability of emissions measurements and the effect of cold soak temperature upon measured exhaust emission are also presented. Mass emission measurements were made using the 1972 Federal Test Procedure and concentration measurements were made in selected engine operation modes. GRA

M74-19280# Flinders Univ., Bedford Park (Australia). School of Physical Sciences.

CONTROLLED FUSION RESEARCH Progress Report

M. H. Brennan Sep. 1973 21 p refs

(FUPH-G-4) Avail: AEC Depository Libraries HC \$3.25

The current status of the international research program directed towards developing a fusion reactor for electricity production is assessed. Information is obtained mainly from meetings of the International Fusion Research Council (July 29 and Aug. 1, 1973) and the Sixth European Conference on Controlled Fusion and Plasma Physics held in Moscow from July 30 to August 3, 1973. The major items of business discussed at the meeting of the International Fusion Research Council are presented and the various national research programs are outlined. Finally, the Australian program is considered.

N74-19375# Los Alamos Scientific Lab., N.Mex. DESIGN OPTIONS AND TRADEOFFS IN SUPERCONDUCT-ING MAGNETIC ENERGY STORAGE WITH IRREVERSIBLE SWITCHING

H. L. Laquer, J. D. G. Lindsay, E. M. Little, J. D. Rogers, and O. M. Weldon 1973 21 p refs Presented at Symp. on Technol. of Controlled Thermonucl. Fusion Expt. and the Eng. Aspects of Fusion Reactors, Austin, Tex., 20 Nov. 1973 Sponsored by AEC

(LA-UR-73-910; Conf-731102-1) Avail: NTIS. HC \$3.25

A program is presently under way at Los Alamos to determine how superconducting magnetic energy storage in conjunction with normal-going superconducting switches can be made to deliver the energies of the order of 200 MJ that will be needed for plasma compression in a pulsed theta-pinch scientific feasibility experiment. After a review of the circuit configurations, the properties of commercially available and of some developmental superconductors relevant to both the energy storage coil and to the switch are discussed. Critical current densities at low fields and stability requirements both with respect to rapidly changing external fields and to self fields are of particular importance in determining optimum operating fields and temperatures. The tradeoff between eddy current losses in the stabilizing material and the need for coil protection if a coil normalcy should occur is described. Problems in potting or other forms of mechanical stabilization for both superconducting elements are Author (NSA) pointed out.

N74-19391# Michigan Univ., Ann Arbor. Dept. of Physics. LIQUID HYDROGEN AS A FUEL FOR MOTOR VEHICLES; A COMPARISON WITH OTHER SYSTEMS

Lawrence W. Jones [1973] 4 p Avail: NTIS HC \$4.00

The pros and cons are explored of liquid hydrogen fuel, especially for smaller systems (automobiles and trucks). The alternative methods of liquid hydrogen fueling, whether by replaceable tanks or pumping from a storage vessel, are also Author discussed.

N74-19405*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

A SIMPLIFIED LIFE-CYCLE COST COMPARISON OF VARIOUS ENGINES FOR SMALL HELICOPTER USE

Kestutis C. Civinskas and Laurence M. Fishbach Feb. 1974 29 p refs Prepared in cooperation with Army Air Mobility R and D Lab., Cleveland, Ohio

(NASA-TM-X-71517; E-7908) Avail: NTIS HC \$4.50 CSCL

A ten-year, life-cycle cost comparison is made of the following engines for small helicopter use: (1) simple turboshaft; (2) regenerative turboshaft; (3) compression-ignition reciprocator; (4) spark-ignited rotary; and (5) spark-ignited reciprocator. Based on a simplified analysis and somewhat approximate data, the simple turboshaft engine apparently has the lowest costs for mission times up to just under 2 hours. At 2 hours and above, the regenerative turboshaft appears promising. The reciprocating and rotary engines are less attractive, requiring from 10 percent to 80 percent more aircraft to have the same total payload capability as a given number of turbine powered craft. A nomogram was developed for estimating total costs of engines not covered in this study.

N74-19408#. Army Foreign Science and Technology Center, Charlottesville, Va.

MULTIFUEL DIESEL ENGINES

 I. Gershman and A. P. Lebedinskiy 30 Oct. 1973 221 p refs Transl. into ENGLISH of the book "Mnogotoplivnyye Dizeli" Moscow, Mashinostr., 1971 224 p

(AD-771198/9GA; FSTC-HT-23-1981-72)

HC \$13.25 CSCL 21/7

Soviet research and development in the field of creating multifuel motor vehicle diesel engines is described. Possible technical solutions directed at adapting the internal combustion engine to operation on various types of fuels are considered.

GRA

N74-19413# Air Force Systems Command, Wright-Patterson AFB, Ohio. Foreign Technology Div.

BY-PASS ENGINES

G. Predtechenskii 30 Nov. 1973 14 p. Transl. into ENGLISH from Grazhdanskaya Aviats. (USSR), no. 6, Jun. 1973 p 24-25 (AD-772723; FTD-HT-23-537-74) Avail: NTIS CSCL 21/5

The report describes the design and performance of Soviet designed jet aircraft bypass engines.

N74-19584*# National Aeronautics and Space Administration. Pasadena Office, Calif.

METHOD OF FORMING A WICK FOR A HEAT PIPE Patent Application

Frank G. Arcella (Westinghouse Elec. Corp.), Ernest C. Phillips (Westinghouse Elec. Corp.), and Richard P. Sprecace, inventors (to NASA) (Westinghouse Elec. Corp.) Filed 27 Feb. 1974 10 p Prepared for JPL

(Contracts NAS7-100; JPL-953074)

(NASA-Case-NPO-13391-1; US-Patent-Appl-SN-446567) Avail: NTIS HC \$4.00 CSCL 20M

A method for forming a tubular wick for heat pipes is presented. The method consists of steps involving forming the wick blank of a predetermined thickness from multiple layers of stainless steel screen mesh. The process makes it possible to reduce the pore size of the wicks by approximetely fifty percent. NASA

N74-19586# Federal Power Commission, Washington, D.C. Planning and Development Div.

NATURAL GAS SUPPLY IN THE DECADE OF THE SEVENTIES

Gordon K. Zareski Mar. 1973 19 p refs Presented at the 74th Natl. Meeting of the Am. Inst. of Chem. Engr., New Orleans, 13 Mar. 1973

Avail: NTIS HC \$4.00

The energy situation with respect to natural gas as an energy source was studied. Factors which contributed to the current shortage of natural gas supplied are analyzed. Federal actions to develop the policies necessary to increase the supply of natural gas and to encourage optimum use of this energy source are reported. Possible future sources of natural gas to supplement the shortage are identified. Tables, maps, and graphs are included to show the natural gas supply.

P.N.F.

N74-19587# Federal Power Commission, Washington, D.C. Analysis and Procedures Div.

NATURAL GAS AVAILABILITY: PRESENT AND FUTURE Gordon K. Zareski May 1972 13 p. Presented at Symp. on Gaseous Fueled Vehicles and the Environ., Washington, D. C., 24-26 May 1972

Avail: NTIS HC \$4.00

An analysis of the availability of natural gas and gas reserves in the United States is presented. The actual and projected demand for gas during the 1950 to 1990 time period is analyzed. Historical trends in natural gas production and reserve additions are illustrated. A graph of the annual demand for natural gas is plotted to show the levels of domestic productive capacity with annual reserve additions of 30, 25, and 20 trillion cubic feet.

P.N.E.

N74-19604# Committee on Science and Astronautics (U. S. House).

H.R. 11864: SOLAR HEATING AND COOLING DEMON-STRATION ACT OF 1974. BACKGROUND AND LEGISLA-TIVE HISTORY

Washington GPO Feb. 1974 306 p refs Presented to Comm. on Sci. and Astronaut., 93d Congr., 2d Sess., Feb. 1974

Avail: NTIS Avail: Subcomm. on Energy

The responses are reported of selected Federal agencies to requests, by the Committee, for information on current research in areas of solar energy. The nature of ongoing solar energy research, funding levels, and recommended areas for development are discussed. The legislative history of solar energy for heating and cooling, H.R. 11884 is included. F.O.S.

N74-19805# Select Committee on Small Business (U. S. House).

CONCENTRATION BY COMPETING RAW FUEL IN-DUSTRIES IN THE ENERGY MARKET AND ITS IMPACT ON SMALL BUSINESS. VOLUME 2: TENNESSEE VALLEY AREA

Washington GPO 1972 20 p Presented by Select Comm. on Small Business to the Comm. of the Whole House on the State of the Union, 92d Congr., 2d Sess., 8 Aug. 1972

(H-Rept-92-1313) Avail: U.S. Capitol, House Document Room Hearings investigated the monopolistic impact of the growing economic concentration in the energy field and the reasons underlying the recent increases in electric rates in the Tennessee Valley Area. Electric rates have increased 25% and coal prices have risen 100% between 1971-72. Findings and recommendations concerning the causes and solutions to the escallating energy costs are included.

K.M.M.

N74-19806# Joint Committe on Atomic Energy (U. S. Congress).

ATOMIC ENERGY COMMISSION 1 DECEMBER 1973 REPORT ON ENERGY RESEARCH AND DEVELOPMENT Washington GPO 1974 783 p refs Hearing before Joint Comm. on Atomic Energy, 93d Congr., 1st Sess., 11 Dec. 1973

Avail: SOD HC \$5.20

Congressional reports on future energy research and development programs are presented. Policies to regain and maintain national energy self-sufficiency are outlined: (1) the

conservation of energy by decreasing consumption and increasing the technical efficiency of conversion processes; (2) increase the domestic production of oil and natural gas; (3) increase the use of coal; (4) expand the production of nuclear energy; and (5) promote the use of alternate energy sources such as hydrogeothermal, and solar.

N74-19614# Geological Survey, Washington, D.C. ENERGY RESOURCES OF THE UNITED STATES
P. K. Theobatd, S. P. Schweinfurth, and D. C. Duncan 1972
30 p refs
(Circ-650) Avail: NTIS HC \$4.50

Diagrams present the U.S. Geological Survey estimates of the United States resources of coal, petroleum liquids, natural gas, uranium, geothermal energy, and oil from oil shade. The short text accompanying each diagram outlines the method of estimation or the source of the estimate and defines the characteristics of each estimate. Where appropriate, comparisons with other estimates are also given.

Author

N74-19616# Mitte Corp., McLean, Va. ENERGY, RESOURCES AND THE ENVIRONMENT: A SET OF PRESENTATIONS

Richard S. Greeley Jun. 1973 79 p. Presented at the US Inform. Agency Exhibit on Progr. and the Environ., Poland Intern. Trade Fair, Lodz. 18-22 Jun. 1973 (M73-61) Avail: NTIS HC \$7.00

The fuel resources available to the world are described, including solar, nuclear fusion, nuclear fission, geothermal, tidal, hydro, and fossil energy sources. These resources are compared with estimated fuel consumption rates in the future. Solar, fusion, and fission with breeding are shown to represent essentially infinite energy sources. Methods are described for improving the efficiency and economy in the ways we use fuels. Savings of 10-15% appear possible in the near term. An energy ethic is described which involves changes to government regulations and tax policies and other institutions to promote efficiency and conservation in the use of fuels. The technology of advanced energy systems is described including automobile engines, mass transit systems, pollution control devices, fuel cells, and magnetohydrodynamic production of electricity. The need for a vigorous, international research and development program is discussed to provide assurance for continued supplies of clean, abundant energy. Author

N74-19617# Committee on Commerce (U. S. Senate).
COUNCIL ON ENERGY POLICY

Washington GPO 1973 225 p refs Hearings on S. 70 and S. 419 before Comm. on Com., 93d Congr., 1st Sess., 7-8 Feb. 1973

Avail: Comm. on Com.

Hearings on the establishment of a national energy resources advisory board are presented. Measures to coordinate energy policies and improve management of energy resources are outlined. S.K.W.

N74-19618# Committee on Interior and Insular Affairs (U. S. Senate).

THE GASOLINE SHORTAGE: A NATIONAL PERSPEC-TIVE

David M. Lindahl Washington GPO 1973 98 p refs Presented to Comm. on Interior and Insular Affairs, 93d Congr., 1st Sess., 19 Jun. 1973 Prepared by Library of Congr. Avail: Comm. on Interior and Insular Affairs

An overview is presented of factors contributing to the gasoline shortage, the extent of the shortage, and its impact on the country. Emphasis is placed upon problems of supply and demand and remedial actions taken to alleviate the problem.

Author

N74-19624# Mitre Corp., McLean, Va. Transportation Systems Engineering Dept.
US TRANSPORTATION: SOME ENERGY AND ENVIRONMENTAL CONSIDERATIONS

W. E. Fraize Sep. 1974 49 p refs

(M72-164) Avail: NTIS HC \$5.50

The role of transportation in air pollution and consumption of energy, especially petroleum, is reviewed, with emphasis on the U. S. situation. Both technological and control measures for each problem area are discussed. Technological measures focus on the automobile, high speed ground transportation modes, and non-petroleum fuels, while control measures, which encourage the use of the more efficient transportation modes, are seen to offer significant benefits. The near future is discussed with respect to the impact of the U.S. Amended Clean Air Act of 1970. Transportation evolution over the next few decades is projected.

N74-19629# Stanford Research Inst., Mento Park, Calif. MEETING CALIFORNIA'S ENERGY REQUIREMENTS. 1975-2000

May 1973 412 p refs Sponsored by Los Angeles Dept. of Water and Power, Pacific Gas and Elec. Co., Sacramento Municipal Utility District, San Diego Gas and Elec. Co., and Southern Calif. Edison Co.

(SRI Proj. ECC-2355) Avail: NTIS HC \$23.75

A study was conducted to determine various aspects of the present and future energy requirements for the State of California. The specific objectives of the study are as follows: (1) to assess the economic framework and related demand for energy, (2) to determine means for altering the projected demand pattern, requirements for implementing each of these demands, and appraisal of their significance, (3) to analyze the future supply from each source of energy and the factors affecting availability and use, and (4) to predict probable future trends in price.

Author

N74-19693* National Aeronautics and Space Administration. Pasadena Office, Calif.

STORAGE BATTERY COMPRISING NEGATIVE PLATES OF A WEDGE SHAPED CONFIGURATION Patent

Richard S. Bogner (ESB, Inc., Raleigh, N, C.) and Charles D. Farris, inventors (to NASA) (ESB, Inc., Raleigh, N, C.) Issued 5 Feb. 1974 6 p Filed 22 Feb. 1972 Supersedes N72-22048 (10 - 13, p 1695) Sponsored by NASA Prepared for JPL (NASA-Case-NPO-11806-1; US-Patent-3,790,409;

US-Patent-Appl-SN-228163; US-Patent-Class-136-20;

US-Patent-Class-136-30) Avail: US Patent Office CSCL 10C An improved silver-zinc battery particularly suited for use in an environment where battery operation is subjected to multiple charge/discharge cycling over extended periods is described. The battery seperator system, containing a highly absorbent material continguous with the surfaces of the plates and multiple semi-permeable membranes interposed between the plates, is also characterized. Official Gazette of the U.S. Patent Office

N74-19694 Escher Technology Associates, St. Johns, Mich. A PROBLEM STATEMENT: OCEAN BASED SOLAR-TO-HYDROGEN ENERGY CONVERSION MACRO SYSTEM William J. D. Escher and Joe A. Hanson (Oceanic Inst.) Nov.

1973 25 p refs Copyright. Avail: Issuing Activity CSCL 10A

An ocean based solar to hydrogen energy conversion facility is proposed that uses hydrogen as an energy carrier to be delivered to the spectrum of the energy using sector, instead of electricity. because of hydrogen's advantages of transportability and storability. The solar to hydrogen conversion process is conducted on the open ocean, and not in the traditional desert location. A number of coproducts that can also be supplied by the proposed ocean complex includes sea foods, salts, fertilizers, magnesium, and aluminum materials. Author

N74-19695 Oregon State Univ., Corvallis. OPTIMIZATION OF STAGED RANKINE ENERGY CONVER-SION CYCLES FOR HIGH EFFICIENCY Ph.D. Thesis Larry Dean Simmons 1974 183 p

Avail: Univ. Microfilms Order No. 74-4206

The potential of staged Rankine cycle systems for substantially higher efficiency was studied. It was necessary to optimize the cycles to determine maximum potential efficiency, and the sequential unconstrained minimization technique of nonlinear programming was implemented on the CDC 3300 computer for this purpose. Binary, ternary, and quaternary Rankine cycle configurations were optimized for maximum efficiency under a set of realistic constraints. Liquid metal working fluids were used for the higher temperature stages with water for the low temperature stage fluid. Maximum efficiencies are presented for the best cycle configurations with peak temperatures from 900 F to 3000 F. Sensitivity of the results to certain critical Dissert, Abstr. assumptions is also included.

N74-19696*# Florida Univ., Gainesville. Engineering and Industrial Experiment Station.

MASS TRANSFER IN FUEL CELLS Semiannual report, 1 Mar - 31 Aug. 1973 Robert D. Welker, Jr. 14 Dec. 1973 93 p. refs

(Grant NGL-10-005-022)

(NASA-CR-137359; SAR-16) Avail: NTIS HC \$7.75 CSCL

Developments in the following areas are reported: surface area and pore size distribution in electrolyte matrices, electron microscopy of electrolyte matrices, surface tension of KOH solutions, water transport in fuel cells, and effectiveness factors for fuel cell components.

N74-19697*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

NASA LEWIS H2-02 MHD PROGRAM

Marlin Smith, L. D. Nichols, and G. R. Seikel 10 Apr. 1974 8 p refs Presented at the 14th Symp. on Eng. Aspects of Magnetohydrodynamics, Tullahoma, Tenn. 8-10 Apr. 1974 • (NASA-TM-X-71520; E-7907) Avail: NTIS HC \$4.00 CSCL

Performance and power costs of H2-O2 combustion powered steam-MHD central power systems are estimated. Hydrogen gas is assumed to be transmitted by pipe from a remote coal gasifier into the city and converted to electricity in a steam MHD plant having an integral gaseous oxygen plant. These steam MHD systems appear to offer an attractive alternative to both in-city clean fueled conventional steam power plants and to remote coal fired power plants with underground electric transmission into the city. Status and plans are outlined for an experimental evaluation of H2-O2 combustion-driven MHD power generators at NASA Lewis Research Center.

N74-19698*# Jet Propulsion Lab., Calif. Inst. of Tech.,

OPTICAL PROPERTIES OF THIN GOLD FILMS APPLIED TO SCHOTTKY BARRIER SOLAR CELLS

Y. -C. M. Yeh 15 Mar. 1974 22 p refs

(Contract NAS7-100)

(NASA-CR-137981; JPL-TM-33-676) Avail: NTIS HC \$4.25 CSCL 10A

The Schottky barrier solar cell is considered a possible candidate for converting solar to electrical energy both for space and terrestrial applications. Knowledge of the optical constants of the ultrathin metal film used in the cell is essential for analyzing and designing higher efficiency Schottky barrier cells. The optical constants of 7.5 -nm (75-A) gold films on gallium arsenide have been obtained. In addition, the absolute collection efficiency of Schottky barrier solar cells has been determined from measured spectral response and optical constants of the gold film. Author

N74-19699# City of St. Louis, Mo.

ENERGY RECOVERY FROM WASTE: SOUD WASTE AS SUPPLEMENTARY FUEL IN POWER PLANT BOILERS Interim Report

Robert A. Lowe 1973 29 p refs

(Gram EPA-S-802255)

(SW-36d.ii; IR-2) Avail: SOD HC \$0.40

The process of converting municipal solid waste into energy for power plant boilers is described. The process involves collecting the waste from residential areas, grinding the material, and air-classifying the shredded wastes to find the light combustible fraction. Magnetic metals are recovered from the heavier, mostly noncombustible, wastes. Other topics of discussion include: the processing system and its operation; boiler modification and operating experience; air pollution considerations; markets; and economics.

K.M.M.

N74-19700*# National Aeronautics and Space Administration.
Marshall Space Flight Center, Huntsville, Ala.

A PANEL FOR SELECTIVELY ABSORBING SOLAR THER MAL ENERGY AND THE METHOD FOR MANUFACTURING

THE PANEL Patent Application

James R. Lowery, inventor (to NASA) Filed 5 Apr. 1974
21 p.

(NASA-Case-MFS-22562-1; US-Patent-Appl-SN-458484) Avail: NTIS HC \$4.25 CSCL 10A

A panel for selectively absorbing solar thermal energy is reported that consists of a metallic substrate, a layer of bright metallic material carried on the substrate, and a solar thermal energy absorbing coating carried on the bright metallic material. A layer of zinc is interposed between the metal substrate and the layer of bright material, or the metallic substrate can be anodized for receiving the layer of bright metallic material. Also disclosed is the method for producing the coating which selectively absorbs solar thermal energy.

NASA

N74-19701*# National Aeronautics and Space Administration.

HEAT OPERATED CRYOGENIC ELECTRICAL GENERATOR Patent Application

Taylor G. Wang (JPL), Melvin M. Saffre, and Daniel D. Elleman, inventors (to NASA) Filed 1 Apr. 1974 19 p (Contract NAS7-100)

(NASA-Case-NPO-13303-1; US-Patent-Appl-SN-457295) Avail: NTIS HC \$4.00 CSCL 10A

An electrical generator useful for providing electrical power in deep space, is disclosed. The generator utilizes liquid helium conversion to and from a superfluid state to cause opposite directions of rotary motion for a rotor cell to move a magnetic field provided by a changed superconductive coil mounted on the exterior of the cell. An electrical conductor interacts with the moving magnetic field provided by the superconductive coil and thereby generates electrical energy. A heat control arrangement causes the liquid helium to be partially converted to and from a superfluid state.

N74-19702*# National Aeronautics and Space Administration.

ELECTRIC POWER GENERATION SYSTEM DIRECTLY FROM LASER POWER Patent Application

Katsunori Shimada, inventor (to NASA) (JPL) Filed 27 Mar. 1974 1.7 p

(Contract NAS7-100)

(NASA-Case-NPO-13308-1; US-Patent-Appl-SN-455164) Avail: NTIS HC \$4.00 CSCL 10A

A system is reported in which laser power is directly converted into electric power. Liquid cesium is ionized by a laser beam with a collector spaced apart from the cesium to collect either the cesium ions or free electrons; thus, a potential difference between the collector and the cesium liquid is produced. NASA

N74-19706*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

STATUS OF WIND-ENERGY CONVERSION

Robert L. Thomas and Joseph M. Savino 1973 9 p. refs. Presented at the RANN Symp., Washington, D. C., 18-20 Nov. 1973; sponsored by NSF

(NASA-TM-X-71523; E-7912) Avail: NTIS HC \$4.00 CSCL

The utilization of wind energy is technically feasible as evidenced by the many past demonstrations of wind generators. The cost of energy from the wind has been high compared to fossil fuel systems; a sustained development effort is needed to obtain economical systems. The variability of the wind makes it an unreliable source on a short term basis. However, the effects of this variability can be reduced by storage systems or connecting wind generators to: (1) fossil fuel systems; (2) hydroelectric systems; or (3) dispersing them throughout a large grid

network. Wind energy appears to have the potential to meet a significant amount of our energy needs.

Author

N74-19706*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

CLEAN FUELS FROM BIOMASS

Y. Y. Hsu 1974 23 p refs Presented at the 10th Southeastern Seminar on Thermal Sci., New Orleans, 11-12 Apr. 1974 (NASA-TM-X-71538; E-7945) Avail: NTIS HC \$4.25 CSCL 20M

The feasibility of converting biomass to portable fuels is studied. Since plants synthesize biomass from H2O and CO2 with the help of solar energy, the conversion methods of pyrolysis, anaerobic fermentation, and hydrogenation are considered. Cost reduction methods and cost effectiveness are emphasized. G.G.

N74-19707*# Kanner (Leo) Associates, Redwood City, Calif. SYNCHRONOUS-FLOW GENERATOR

S. V. Zweygbergk Washington NASA Apr. 1974 8 p Transl. into ENGLISH of "Synkronflode-Generator", Chalmers Tech. Univ., Inst. for the Study of Elec. Machinery, Goteborg, Sweden, 16 Jan. 1974 2 p

(Contract NASw-2481)

(NASA-TT-F-15440) Avail: NTIS HC \$4.00 CSCL 10A

A synchronous flow generator is described. The results obtained from an investigation into direct frequency reversal with the aid of semiconductors have been used as a besis for designing a synchronous-flow generator. Its uses are foreseen as reserve power plants for hospitals, power supplies on large ships, etc.

Author

N74-19708*# Kanner (Leo) Associates, Redwood City, Calif.
ANALYSIS OF THE POSSIBLE USE OF WIND POWER IN
SWEDEN. PART 1: WIND POWER RESOURCES, THEORY
OF WIND-POWER MACHINES, PRELIMINARY MODEL 1
AND 10 MW WIND GENERATORS

Bengt Soedergard Washington NASA Apr. 1974 55 p refs Transl into ENGLISH of "Utredning om Vindkraftens Moejligheter i Sverige. Etapp 1: Vindkraftresurser - Teori foer Vindkraftmaskiner - Preliminaera Vindgeneratormopeller 1 och 10 MW", Swed. Board for Tech. Develop., report, 18 Dec. 1973 44 p

(Contract NASw-2481)

(NASA-TT-F-15441) Avail: NTIS HC \$5.75 CSCL 10A

Aspects are discussed that must be considered in respect to the possible use of wind power in Sweden, such as availability and nature of wind resources, cost of this type of energy, etc. The basic theory of calculating the power of wind-power machine are presented with tables and diagrams. Data for several large wind-power machines constructed in the U.S.A., Great Britain, etc are given. The conclusion is reached that the use of wind power in Sweden is not feasible, primarily because of its high cost per kWh.

N74-19709*# Scientific Translation Service, Santa Barbara, Calif.

HIGH WIND POWER PLANTS

H. Honnef Washington NASA Apr. 1974 19 p refs Transl, into ENGUSH from Elektrotech. Maschinenbau (Berlin), v. 57, no. 41 and 42, 13 Oct. 1939 p 501-506. (Contract NASw-2483)

(NASA-TT-F-15444) Avail: NTIS HC \$4.00 CSCL 10A

In comparison to the usual power plants in which the machines are installed in special buildings, the high wind power plant is described as a power source in which the structure as a whole makes up the machine. New large structures are supports for generators with large diameters but with the other dimensions small. The use of the advantageous high wind flow leads to unusually high structures, but these are completely storm safe and stable, as well as economical. Details of the counter-rotating turbine and some experimental results are presented. Author

N74-19710*# Kanner (Leo) Associates, Redwood City, Calif. REPORT OF THE WIND POWER COMMITTEE OF 1962 E. Volmer Nielsen Washington NASA Apr. 1974 32 p Transl.

into ENGLISH of "Uddrag af Vindkraftudvalgets Betenkning af 1962", Danish Assoc. of Elec. Supply Undertakings, report, 1962

(Contract NASw-2481)

(NASA-TT-F-15442) Avail: NTIS HC \$4.75 CSCL 108

The Danish Wind Power Committee's experiments with propeller windmills are described, specifically the 25-m-high windmill at Gedser. Wind measuring stations were established. and the wind energy available and optimum locations determined. A cost comparison was made of electricity from wind and steam power, and the committee concluded that wind power plants were economically unfeasible to develop at that

N74-19711# Chicago Univ., III. SOLAR CONCENTRATORS OF A NOVEL DESIGN Roland Winston Mar. 1974 25 p refs (EFJ-74-21) Avail: NTIS HC \$4.25 CSCL 10A

A new principle for collecting and concentrating solar energy, the ideal cylindrical light collector has been invanted. The collector is a trough-like reflecting wall light channel of a specific shape which concentrates radiant energy by the maximum amount allowed by phase space conservation. The ideal cylindrical light collector is capable of accepting solar radiation over an average 8-hour day and concentrating it by a factor of approximately 10 without diurnal tracking of the sun. This collector has a large acceptance for diffuse light. In fact, the efficiency for collecting and concentrating isotropic radiation, in comparison with a flat plate collector, is just the reciprocal of the concentration factor. Author

N74-19717# Naval Ship Research and Development Center, Annapolis, Md. PROCEEDINGS OF WORKSHOP ON NAVY ALTERNATE

ENERGY SOURCES RESEARCH AND DEVELOPMENT J. R. Belt, ed. and H. V. Nutt, ed. Jan. 1974 97 p refs Conf. held at Annapolis, 18-20 Sep. 1973

(AD-773746; NSRDC-4195) Avail: NTIS CSCL 21/4

A workshop was held to examine the Navy's energy requirements and the directions that Navy Research and Development should take to minimize the impact on the Navy of projected national petroleum fuel supply shortages. The current state of research and development on liquid fuels from coal and oil shale, as well as the ability to extract from them fuels that are reasonably similar to currently used petroleum products, make it appropriate for the Navy to concentrate first on these. Demonstrations of compatability of Navy power plants with fuels derived from coal or oil shale, and definition of minimum fuel quality requirements, are needed. For the longer term, efforts to harness environmental energy sources, such as winds, currents, and thermal gradients in the earth and in the oceans, appear to have considerable potential payoff, particularly for nonmobile applications. (Modified author abstract) GRA

N74-19975# Interior Dept., Washington, D.C. FINAL ENVIRONMENTAL STATEMENT FOR THE GEOTHER-MAL LEASING PROGRAM. VOLUME 2: LEASING OF GEOTHERMAL RESOURCES IN THREE CALIFORNIA

1973 517 p refs 4 Vol. Avail: SOD HC \$5.85

Individual environmental statements are presented for the leasing of federally owned geothermal resources for development in three specific areas: (1) Clear Lake geysers; (2) Mono Lake-Long Valley; and (3) Imperial Valley. Also included is a summary of comments and responses relative to the draft environmental impact statement issued in 1971. Author

N74-19976# Interior Dept., Washington, D.C. FINAL ENVIRONMENTAL STATEMENT FOR THE GEOTHER-MAL LEASING PROGRAM. VOLUME 3: PROPOSED GEOTHERMAL LEASING AND OPERATING REGULA-TIONS

1973 697 p refs 4 Vol. Avail: SOD HC \$5,60

Proposed lessing and operating regulations to implement the Geothermal Steam Act are presented. Included are a study comparing vapor dominated hydrothermal systems with hot water systems, and a classification of public lands valuable for geothermal steam and associated geothermal resources. . G.G.

N74-19977# Interior Dept., Washington, D.C. FINAL ENVIRONMENTAL STATEMENT FOR THE GEOTHER-MAL LEASING PROGRAM. VOLUME 4: COMMENTS ON DRAFT IMPACT STATEMENT AND PROPOSED REGULA-TIONS

1973 726 p refs 4 Vol. Avail: SOD HC \$5.65

Comments received from Federal, State, local, and individual interests on the leasing and operating regulations, the draft environmental impact statement for the Geothermal Leasing Program, and the supplement to the draft statement are presented.

N74-20069# Bureau of Mines, Bartlesville, Okla: Energy Research Center.

WASTE LUBRICATING OIL RESEARCH: AN INVESTIGA-TION OF SEVERAL RE-REFINING METHODS

M. L. Whisman, J. W. Goetzinger, and F. O. Cotton 1974 29 p refs

(BM-RI-7884) Avail: NTIS HC \$4.50

Several commercial processes for reclaiming used lubricating oil were duplicated on a laboratory bench scale. Laboratory tests were selected and in some instances modified to determine the physical properties of each oil produced. In addition, the hydrocarbon composition of some samples was determined using a liquid chromatographic technique, and compared with the composition of new oil in order to determine the severity of the re-refining additive package for further estimates of quality as determined by wear, corrosion, foaming, and oxidation stability tests. Additionally, several samples of commercially re-refined oil and new oil were obtained and physical properties were determined for comparative studies.

N74-20238*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

DEVELOPMENT CONCEPT FOR A SMALL SPLIT-CORE, **HEAT-PIPE-COOLED NUCLEAR REACTOR**

Edward Lantz, Roland Breitwieser, and George F. Niederauer Washington Apr. 1974 35 p refs (NASA-TM-X-2996; E-7542) Avail: NTIS HC \$3.25 CSCL

There have been two main deterrents to the development of semiportable nuclear reactors. One is the high development costs; the other is the inability to satisfy with assurance the questions of operational safety. This report shows how a split-core, heat-pipe cooled reactor could conceptually eliminate these deterrents, and examines and summarizes recent work on split-core, heat-pipe reactors. A concept for a small reactor that could be developed at a comparatively low cost is presented. The concept would extend the technology of subcritical radio-isotope thermoelectric generators using 238 PuO2 to the evolution of critical space power reactors using 239 PuO2. Author

N74-20406 Motoren- und Turbinen-Union Muenchen G.m.b.H. (West Germany).

INVESTIGATION OF THE RELATIVE MERITS OF DIFFERENT POWER PLANTS FOR STOL-AIRCRAFT WITH BLOWN FLAP APPLICATION

H. Grieb, W. Klussmann, and G. Weist In AGARD V/STOL Propulsion Systems Jan. 1974 19 p refs

The relative merits of different air supply systems for STOL-aircraft with blown flap application are investigated. Under consideration are self-sustained supply units, such as gas turbine driven compressors, remote compressors driven with hot gas from the cruise engines and 2 possibilities for off-take of compressed air from the cruise engines. The air supply systems reviewed are compared with respect to the design requirements, the operating behaviour including any reactions on the cruise

engines, the sensitivity to component failure and the weight penalty to be expected. Author

N74-20408 Fiat S.p.A., Turin (Italy). Div. Aviazione. ENGINE CYCLE SELECTION FOR COMMERCIAL STOL AIRCRAFT

Giorgio Feo and Alfredo Capuani (Societa Aeritalia, Turin) /n AGARD V/STOL Propulsion Systems Jan. 1974 11 p.

The cycle and design parameters pertinent to a turbofan to be used for STOL short haul applications have been studied. For the chosen aircraft configuration, the criteria that condition the choice of the cycle, fisted in decreasing importance, have been determined as follows: (1) low noise level, (2) high specific thrust to obtain low-weight and reduced-size engines, and (3) low specific fuel consumption (s.f.c.). It is concluded that the controlling factor is the poise level requirement for airports in congested areas. In order to satisfy this and the mission operational requirements the turbofan engine is driven towards medium bypass ratios and high thrust weight ratios but with less emphasis on Author

N74-20444 European Space Research Organization, Paris (France)

THE INFLUENCE OF INDIVIDUAL COMPONENTS AND OF THEIR MECHANICAL ARRANGEMENT ON THE STATION-ARY OPERATING BEHAVIOUR OF DUAL CYCLE PROPUL-SION ENGINES

Hurbert Grieb . In its Behaviour of the Turbine Engine Feb. 1974 p 4-45 Transl. into ENGLISH from "Verhalten des Turbotriebwerks", DGLR, Cologne, report DLR-Mitt-73-05, Jan. 1973 p 7-50

The influence of combustion chambers compressors and atterburners, and their mechanical configuration, on the static performance of two-cycle turboiet engines with a high bypass ratio, was investigated. As a basis for comparison of the thermodynamic cycling processes, maximal thrust with and without afterburning at sea altitude and a flight Mach number of 0.9 were chosen. The following conclusions were drawn with regard to the type of engine investigated: (1) within certain limits, a desired performance can be obtained with several thermodynamic designs; (2) the influence of the mechanical configuration of the static performance is small; (3) the technological state-of-the-art of the components is essential for the quality of stationary operating characteristics; (4) the optimal turning of the compressor characteristics to the expected load lines has considerable influence on the operation: (5) the design of low pressure compressor transition to medium pressure compressor and (6) bypass channel needs special attention besides mechanical ESRO

N74-20453# Air Force Systems Command, Wright-Patterson AFB. Ohio. Foreign Technology Div.

PROBLEM OF THE APPLICATION OF TURBOFAN ENGINES IN AIR TRANSPORT. METHODS OF INCREASE IN EFFICIENCY OF TURBOFAN ENGINE WITH HIGH BYPASS RATIOS

A. L. Klyachkina 28 Nov. 1973 158 p refs Transl. into ENGLISH from Tr. Rizhskii Inst. inzh. Gradzhanskoi Aviatsii (USSR), no. 174, 1971 p 1-153

(AD-773292; FTD-MT-24-661-73) Avail: NTIS CSCL 21/5 The report contains Soviet generated articles relative to the operating parameters of gas turbine engines, thermodynamic functions, gas dynamics, and acoustic characteristics.

N74-20691*# National Aeronautics and Space Administration. Lewis Research Center, Cleveland, Ohio.

JET ENGINE EXHAUST EMISSIONS OF HIGH ALTITUDE COMMERCIAL AIRCRAFT PROJECTED TO 1990

Jack Grobman and Robert D. Ingebo Washington Mar. 1974 86 n refs

(NASA-TM-X-3007; E-7822) Avail: NTIS HC \$4.00 CSCL 218

Projected minimum levels of engine exhaust emissions that may be practicably achievable for future commercial aircraft operating at high-altitude cruise conditions are presented. The

forecasts are based on:(1) current knowledge of emission characteristics of combustors and augmentors; (2) the status of combustion research in emission reduction technology; and (3) predictable trends in combustion systems and operating conditions as required for projected engine designs that are candidates for advanced subsonic or supersonic commercial aircraft fueled by either JP fuel liquefied natural gas, or hydrogen. Results are presented for cruise conditions in terms of both an emission index (a constituent/kg fuel) and an emission rate (a constituent/ Author

N74-20613# Office of the White House Press Secretary, Washington, D.C. INATIONAL ENERGY POLICY FOR MEETING US ENERGY

REQUIREMENTS] Richard Nixon 18 Apr. 1973 19 p Avail: NTIS HC \$4.00

The President's energy policy proposals to Congress on April 18, 1973 are presented. Recommendations were made for the increased production of energy as well as more judicious use of energy resources. The following specific actions were proposed: (1) increased production and use of natural gas; (2) utilization of the oil and gas resources of the Outer Continental Shelf; (3) construction of the Alaska pipeline: (4) development of shale oil; (5) increased utilization of geothermal resources; (6) expanded development and utilization of coal resources; (7) rapid development of nuclear power plants; and (8) exploration of domestic mineral resources. The development of deepwater ports for facilitating imports was also recommended. The establishment of the Federal Energy Organization was outlined.

N74-20614# New York State Office of Economic Research,

CONSUMPTION OF ENERGY IN NEW YORK STATE: 1972 (WITH ESTIMATES FOR 1973)

Olaf Hausgaard Jan. 1974 32 p refs Supplement to QER-10 Supersedes OER-15

(OER-19; OER-10-Suppl; AER-15) Avail: NTIS HC \$4.75

Revisions in the 1971 consumption data for fossil fuels reveal that energy consumption in New York State in 1971 was 4,239.3 T-BTU, a drop of 53.6 T-BTU from 1970 (-1.2%). The decline was a result of an unprecedented drop in fossil fuel demand by the industrial section from 577.6 T-BTU in 1970 to 455.4 T-BTU in 1971. In 1972 the industrial sector consumed 414.8 T-BTU from fossil fuels, a decline of 8.9% from the 1971 level. During both 1971 and 1972 the other three major energy consuming sectors continued their upward trend in energy consumption.

Author

N74-20616# Interior Dept., Washington, D.C. FINAL ENVIRONMENTAL STATEMENT FOR THE GEOTHER-MAL LEASING PROGRAM. VOLUME 1: PROMULGATION OF LEASING AND OPERATING REGULATIONS

1973 485 p refs 4 Vol. Avail: SOD HC \$4.20

Public lands potentailly available for geothermal leasing are described. These include principally: (1) public, withdrawn, and acquired lands administered by the Secretary of the Interior; (2) national forests and other lands administered by the Forest Service, Department of Agriculture, and (3) lands containing a reservation to the United States of the geothermal resources. These lands total 638 million acres. The most promising geothermal resource areas are located predominantly in the 11 western States and Alaska. Included in this proposed action are: (1) the promulgation of leasing and operating regulations pursuant to which the program would be administered; and (2) the leasing of federally owned geothermal resources for development in three specific areas: (a) Clear Lake-Geysers; (b) Mono Lake-Long Valley; and (c) Imperial Valley, all in Califor-

N74-20617# Arkansas Univ., Fayetteville. Dept. of Physics. ENERGY IN THE NEAR TERM

Otto Henry Zinke 21 Jun. 1973 57 p refs Spansored by Dept. of Commerce and Ford Found.

Avail: NTIS HC \$6.00

The dependence of the United States on petroleum as a primary energy source is discussed. Data are presented which outline energy consumption and production estimates. Techniques which would reduce energy consumption are outlined. Correlations are made between energy consumption and employment.

S.K.W.

N74-20619# Bureau of Mines, Bartlesville, Okla. Energy Research Center.

ENERGY PROGRAM, 1972

Bill Linville and John D. Spencer 1973 115 p refs (BM-IC-8612) Avail: NTIS HC \$8.75

Major areas of research by the Bureau of Mines in 1972 for the development of new and improved efficient methods of conservation and utilization for petroleum and natural gas, oil shale, and coal are described. The major objective of the energy research program was to develop the technology for the wise development and use of the nation's energy resources as clean fuels at a reasonable and competitive cost. Emphasis was placed on studies of methods of stimulating production from oil and gas reservoirs. Studies of the fracturing systems of reservoir rocks and oil recovery by water or gas flooding are included.

Author

N74-20821# RAND Corp., Santa Monica, Calif. ENERGY ALTERNATIVES FOR CALIFORNIA: THE CUR-RENT CRISIS. 1: THE IMPACT OF ARAB OIL EXPORT POLICIES ON THE CALIFORNIA ENERGY SYSTEM William R. Ahern Dec. 1973 22 p refs (P-5146) Avail: NTIS HC \$4.25

The objectives of this presentation are: (1) to indicate the impacts of the Arab embargo of oil shipments to the United States on the California energy system; (2) to show how these impacts interrelate with the major trends in state energy supplies and uses; and (3) to identify and measure the important energy shortage allocation problems facing Federal and State officials. Author

N74-20622# RAND Corp., Santa Monica, Calif. COPING WITH THE FUEL SHORTAGE: A GUIDE FOR LOS ANGELES RESIDENTS

M. H. Grauberd and J. J. Mutch Jen. 1974 23 p (P-5154) Avail: NTIS HC \$4.25

Energy uses and conservation measures for the Los Angeles. Celifornia area are outlined. Charts are presented which show: the consumption rates for different household appliances; the sources of energy, and consumption of energy by automobiles. Measures for voluntary energy conservation among residents are outlined along with an emergency plan for electric utilities.

N74-20626# Kernforschungsanlage, Juelich (West Germany).

Inst. fuer Reaktorentwicklung.
APPROACH TO THE HOLISTIC ANALYSIS OF THE SYSTEM MAN-ENERGY-ENVIRONMENT

Jul. 1973 193 p refs in GERMAN; ENGLISH A. Voss summary

(JUL-982-RG) Avail: AEC Depository Libraries HC \$11.75 A holistic analysis for the system man-energy-environment regarding economical, ecological, and technical aspects is presented. The aim is to comprehend all significant influence factors and interactions as well as to compare and to evaluate the positive and negative effects of an increasing energy consumption and its protection by alternative energy supply systems. For such complex systems new methods developed in the field of system engineering, especially cybernetic simulation, have to be used for the derivation of adequate aid for decision.

N74-20627# Oak Ridge National Lab., Tenn. ENERGY RESEARCH AND DEVELOPMENT: A SELECTED READING LIST

M. P. Guthrie, ed., E. E. Huber, ed., and G. A. Norwood, ed. Nov. 1973 237 p Sponsored by NSF

(Contract W-7405-eng-26)

(ORNL-EIS-73-65) Avail: NTIS HC \$14.00

A selected listing of 1,219 publications is assembled for the identification of promising areas for energy research and development. The document is designed to assist the layman. The genesis of the reading list was a need to gain a perspective on what has already been done in energy research and development. The perspective was required to support the development of a report to the President from the Chairman of the AEC on long-range energy research and development needs and policy as requested in the President's June 29, 1973 statement on Energy and National Resources. The bibliography emphasizes general publications on energy sources, electric power, generation, energy uses, and references on energy supply and demand studies. An appendix includes an author index, a simple title index, and a permuted index on titles.

N74-20647 Escher Technology Associates, St. Johns, Mich. PROSPECTS FOR LIQUID HYDROGEN FUELED COM-MERCIAL AIRCRAFT

William J. D. Escher Sep. 1973 39 p refs (PR-37) Copyright. Avail: Issuing Activity

The use of hydrogen as a fuel for aircraft propulsion is discussed. The benefits of hydrogen with respect to air pollution reduction are analyzed. Liquid hydrogen as a potential future aviation fuel is considered to be the only practical chemical fuel producible from ultimate nonfossil energy primary sources. The serodynamic configurations and alreralt systems involved in hydrogen propulsion are described and illustrated. The facilities and processes for commercial production of hydrogen are reported.

N74-20654°# National Aeronautics and Space Administration. Langley Research Center, Langley Station, Vs.
AERONAUTICAL FUEL CONSERVATION POSSIBILITIES
FOR ADVANCED SUBSONIC TRANSPORTS

Albert L. Breslow and Alten H. Whitehead, Jr. 20 Dec. 1973 15 p

(NASA-TM-X-71927) Avail: NTIS HC \$4.00 CSCL 01C

The anticipated growth of air transportation is in danger of being constrained by increased prices and insecure sources of petroleum-based fuel. Fuel-conservation possibilities attainable through the application of advances in seronautical technology to eliciaft design are identified with the intent of ctimulating NASA R and T and systems-study activities in the various disciplinary areas. The material includes drag reduction; weight reduction; increased efficiency of main and auxiliary power systems; unconventional air transport of cargo; and operational changes.

N74-20697 Kansas State Univ., Manhattan. OPTIMAL ELECTRICAL ENERGY GROWTH STRATEGIES IN AN ERA OF ENVIRONMENTAL CONCERN Ph.D. Thesis Jerry William Stauder 1973 151 p

Avail: Univ. Microfilms Order No. 74-6661

A linear programming model of the United States' expanding electrical energy economy is presented. The model finds the minimum cost compromise among the three problems of rapid growth of electrical energy demand, a marginal fuel supply, and environmental protection. It was assumed that the electrical energy demand would be met primarily with nuclear and coal fueled power plants. Linear programming was selected as the optimizing tool. The objective was to minimize the total cost of generating the electrical energy demand in the time period of 1970 to 2000. The costs considered are capital, fuel, operating and maintenance, storage costs of certain fuels, and costs associated Dissert. Abstr. with environmental protection.

N74-20899# Stanford Research Inst., Menlo Park, Calif.
PATTERNS OF ENERGY CONSUMPTION IN THE UNITED STATES

Jan. 1972 236 p. refs. Sponsored by Office of Sci. and Technol.

Avail: SOD HC \$2.25

The objectives of the study are to determine: (1) what significant purposes have fuels been used for in the United States: (2) what portion of the nation's energy requirements for the

various end uses have been met by each fuel; (3) what has been the rate of growth of consumption in the major and uses of each fuel: (4) what technical efficiency can be expected when each fuel is used for those end uses for which it is suitable; The emphasis of the study was on the residential, commercial, and industrial sectors, the use of electric power has also been incorporated, along with the transportation sector, in order to arrive at a total energy belance. This report is strictly a factual document; its purpose is to provide the most detailed information practicable on how the nation uses its energy.

N74-20700*# Kanner (Leo) Associates, Redwood City, Calif. SUPPLEMENT TO THE REPORT ON THE RESULTS ACHIEVED WITH SEAS' EXPERIMENTAL MILL

J. Juul Washington NASA Apr. 1974 40 p refs Transl. into ENGLISH from Elektroteknikeren (Copenhagen), v. 48, Feb. 1952 p 65-79

(Contract NASw-2481)

(NASA-TT-F-15518) Avail: NTIS HC \$5.00 CSCL 10A

Results achieved with an experimental windmill are elaborated on: greatest efficiency of the mill was obtained at a wingtip velocity of 38 m/x; effects caused by wind pressure should not exceed 800 kg/sq cm in any part of the wing or tower, and effects caused by gravity in the wings should not exceed 200-300 kg/sq cm. Experience has shown that the optimal height of the support tower should be from 18-24 m. A history of the Dutch windmill's use and its construction, and also of various modern experimental wind power stations in various parts of the world is given. Costs of building wind power stations are discussed.

Author

N74-20701*# Techtran Corp., Gien Burnie, Md.
LINES OF DEVELOPMENT OF RURAL WIND POWER. PLANTS

K. I. Shenfer and A. A. Ivanov Washington NASA May 1974 7 p refs Transi, into ENGLISH from Elektrichestvo (USSR), no. 5. May 1941 p 21-22

(Contract NASw-2485)

(NASA-TT-F-15613) Avail: NTIS HC \$4.00 CSCL 10A

The use of wind power plants for rural electrification is discussed. The application of various alternative power supply systems involving wind power plants is examined, and the advantages and disadvantages of each alternative are presented.

N74-20702# Stuttgart Univ. (West Germany). Inst. fuer Plasmaforschung.

GENERAL ENERGY CONVERSION AND THE ENERGY MINIMUM PRINCIPLE ALLGEMEINE ENERGIEWAND-LUNG UND DAS ENERGIE-MINIMUMPRINZIPI

H. K. Messerle 1973 28 p refs in GERMAN (IPF-73-4) Avail: NTIS HC \$4.50

The internal or stored energy of an open system was used as a basis for the description of a general energy conversion theory. The properties of the energy function as a state function were determined by 4 postulates of which 3 were basic and intuitive. This results in defining the entropy as an intensive quantity with a reversible property. The energy losses which lead to entropy increase in the interior should be treated independently. So-called inverse processes can be treated as equalization of flow conditions. The result is a dynamic system representation in which the methodology of system theory is

N74-20703# Air Force Systems Command, Wright-Patterson AFB. Ohio. Foreign Technology Div.

STATE OF THE ART AND PROSPECTS OF MAGNETOELEC-TRIC MACHINES FOR SELF-CONTAINED ELECTRICAL SUPPLY SYSTEMS AND CONTROLLABLE ELECTRICAL

V. A. Balagurov and N. T. Koroban 14 Jan. 1974 20 p refs Transl: into ENGLISH from Tr. Energ. Inst. (Moscow), no. 139. 1972 p 6-18

(AD-773893; FTD-HT-23-26-74) Avail: NTIS CSCL 10/2

The characterisities and applications of magnetoslectric machines are discussed. The development of improved permanent

magnets for use with magnetoelectric machines has made it possible to broaden the field of application of the machines with respect to power and frequency. The specific characteristics of the permanent magnets for various applications are defined. It is stated that the selection of one type of magnet system and magnetoelectric generator design over another is usually determined by the magnetic and technological properties of the alloys and the purpose, power, speed, and frequency of the generator

N74-20704# Air Force Systems Command, Wright-Patterson AFR Ohio. Foreign Technology Div.

DEPENDENCE OF EFFICIENCY AND SPECIFIC CHARAC-TERISTICS OF FUEL CELLS ON DISCHARGE CONDI-TIONS

V. S. Daniel-Bek 8 Jan. 1974 17 p. refs Transl, into ENGLISH from Sb. Rab. Khim. Istochnikam Toka (Leningrad), no. 2, 1967 p 155-163

(AD-773264; FTD-HT-23-8-74) Avail: NTIS' CSCL 10/2.

An analysis is given of the dependence of efficiency, specific power, and specific energy of a fuel cell on the discharge conditions. General principles for selecting optimum conditions benimeze era

N74-20705# Defense Documentation Center, Alexandria, Va. ENERGY SOURCES - CITATIONS FROM THE EARLY DDC COLLECTIONS Report Bibliography, Mar. 1933 - Jun. 1952 Jan. 1974 25 p refs (AD-773326; DDC-TAS-74-10) Avail: NTIS CSCL 21/4

This bibliography consists of 121 citations on Energy Sources dated March 1933 to June 1952. These are not in the collection of the DDC Automated Data Banks. They are arranged by ATI (Air Technical Index) numbers, and are available via regular DDC document request procedures.

N74-20709# Applied Physics Lab., Johns Hopkins Univ., Silver

DESIGN CONSIDERATIONS FOR A 100-MEGAJOULE/600-MEGAWATT SUPERFLYWHEEL

David W. Rabenhorst and Robert J. Taylor Dec. 1973 87 p.

(Contract N00017-72-C-4401)

(AD-774736; APL-TG-1229) Avail: NTIS CSCL 10/1

The magnitude of stored energy required in high power bursts for modern experiments in physics has reached the point where capacitor banks previously used for this purpose are no longer Although flywheels have been proven to be less expensive for this purpose and are one-hundredth the size, even the practicality of future flywheel-powered systems is being challenged by the magnitude of future experiment energy requirements. An existing steel flywheel capable of delivering 100 MJ at a rate of 100 MW costs \$1,500,000 and weighs 60,000 pounds. Future experiments may require 20 times this energy. The report describes a Superflywheel having a design goal of delivering 100 MJ at a rate of 500 MW. Its projected cost is less than \$50,000. Also, it appears to be readily scalable to the larger size required for future experiments. Author (GRA)

N74-20710# Prett and Whitney Aircraft, East Hartford, Conn. THE 1.5-kW FUEL CELL POWERPLANT CATALYST IN-VESTIGATION Supplement to Final Report, 1 Oct. 1972 -30 Jun. 1973

Donald R. McVay Jul. 1973 29 p.

(Contract: DAAK02-70-C-0518; DA Proj. 1G6-63702-DG-10) (AD-774274; PWA-4704A-Suppl) Avail: NTIS CSCL 10/2

The objective of this program was to improve the PC14 powerplant thermal cracker catalyst and to define its performance characteristics. Five areas were investigated: (1) the type of catalyst ceramic support and the level of nickel loading, (2) the effect of shock and vibration on performance, (3) performance on leaded gasoline and JP-4, (4) the effect of high sulfur fuel on performance, and (5) endurance on leaded gasoline. results of the study are given in the report.

N74-20948*# Texas Instruments, Inc., Dallas.

ERTS-1 IMAGERY USE IN RECONNAISSANCE PROSPECTING: EVALUATION OF COMMERCIAL UTILITY OF ERTS-1 IMAGERY IN STRUCTURAL RECONNAISSANCE FOR MINERALS AND PETROLEUM Final Report. 20 Aug. 1972 - 23 Oct. 1973

D. F. Saunders, G. E. Thomas, Principal Investigators, F. E. Kinsman, and D. F. Beatty Dec. 1973 162 p refs Original contains imagery. Original photography may be purchased from the EROS Data Center, 10th and Dakota Avenue, Sioux Falls, S. D. 57198 ERTS

(Contract NAS5-21796)

(E74-10345; NASA-CR-136857; U1-702700-F) Avail: NTIS HC \$11.25 CSCL 08G

The author has identified the following significant results. This study was performed to investigate applications of ERTS-1 imagery in commercial reconnaissance for mineral and hydrocarbon resources. ERTS-1 imagery collected over five areas in North America (Montana; Colorado; New Mexico-West Texas: Superior Province, Canada; and North Slope, Alaska) has been analyzed for data content including linears, lineaments, and curvilinear anomalies. Locations of these features were mapped and compared with known locations of mineral and hydrocarbon accumulations. Results were analyzed in the context of a simple-shear, block-coupling model. Data analyses have resulted in detection of new lineaments, some of which may be continental in extent, detection of many curvilinear patterns not generally seen on aerial photos, strong evidence of continental regmatic fracture patterns, and realization that geological features can be explained in terms of a simple-shear, block-coupling model. The conculsions are that ERTS-1 imagery is of great value in photogeologic/ geomorphic interpretations of regional features, and the simpleshear, block-coupling model provides a means of relating data from ERTS imagery to structures that have controlled emplacement of ore deposits and hydrocarbon accumulations, thus providing a basis for a new approach for reconnaissance for mineral, uranium, gas, and oil deposits and structures.

N74-21391# Esso Research and Engineering Co., Linden, N.J. COMBUSTION AND HEAT RECOVERY OF AIR FORCE WASTE PETROLEUM OILS AND LUBRICANTS Final Report, Aug. - Dec. 1973

Martin Lieberman Feb. 1974 73 p refs (Contract F29601-73-C-0101; AF Proj. 683M)

(AD-774563; AFWL-TR-73-244) Avail: NTIS CSCL 21/4

The primary objective of this study was to evaluate the technical feasibility of disposing of waste oils and contaminated fuels generated at Air Force bases by burning them with fuel oil and/or natural gas in a conventional boiler installation. Waste aviation piston-engine oil, synthetic turbine lubricant, hydraulic fluid, Stoddard solvent, crankcase oil, JP-4 jet fuel, and aviation gasoline were burned in No. 2, No. 6 fuel oils, and with natural gas carriers. The results of combustion tests, conducted for as long as 3 hours, indicated that the waste oils could be burned at as high as 5 percent by volume in the fuel oils without producing any significant air pollution or boiler corrosion problems. Each gallon of waste oil or contaminated fuel burned saves approximately a gallon of fuel oil.

N74-21605# Committee on Aeronautical and Space Sciences (U. S. Senate).

NASA AUTHORIZATION FOR FISCAL YEAR 1975, PART 1

Washington GPO 1974 538 p refs Hearings on S. 2955 before Comm. on Aeron. and Space Sci., 93d Congr., 2d Sess., 5, 26 and Feb. 1974

Avail: Comm. on Aeron, and Space Sci.

The Congressional hearings on the NASA authorization for Fiscal Year 1975 are presented. The hearings concern appropriation of funds for research and development, construction of facilities, and program management. The projects discussed include: (1) aircraft noise abatement research, (2) civil and military short haul aircraft, (3) civil and military long haul aircraft, (4) highly maneuverable aircraft technology, (5) aeronautics fuel conservation, (6) exploration of space, and (7) energy technology for civilian needs.

N74-21619# Mitte Corp., McLean, Va.
BACKGROUND MATERIAL FOR THE ENERGY POLICY
WORKSHOP, 11-12 JANUARY 1973
Richard S. Greeley Feb. 1973 79 p

(M73-12) Avail: NTIS HC \$7.00

A specific set of energy policies focused on achieving competitive fuel prices, increased domestic fuel supplies, and environmental protection is discussed. A set of charts containing background information on current and projected fuels availabilities and prices and a narrative discussion of each one is presented.

Author

N74-21620# Committee on Interior and Insular Affairs (U. S. Senate).

CONSERVATION OF ENERGY

Washington GPO 1972 121 p refs Presented to Comm. on Interior and Insular Affairs, 92d Congr., 2d Sess., 1 Aug. 1972 Prepared by Library of Congr. Avail: SOD HC \$0.50

The following topics relating to the conservation of energy resources are discussed. (1) The dependence of the United States on foreign supplies of oil and gas, and the extent to which energy conservation can provide greater national security through the reduction of imports. (2) The economic and technical feasibility of extending the use of available fuel reserves over a longer period of time through more efficient use of production and controls. (3) The consequences of a comprehensive federal program for energy conservation, considering the fact that existing policy is based on the premise that federal and state regulations should encourage industry to meet whatever demands are created in the marketplace. (4) The extent to which advances in finding new energy sources, i.e., solar, breeder, or controlled thermonuclear, will lessen the need for energy conservation.

N74-21624# Joint Economic Committee (U. S. Congress).
THE GASOLINE AND FUEL OIL SHORTAGE From the Subcommittee on Consumer Economics

Washington GPO 1973 295 p refs Hearings before Joint Econ. Comm., 93d Congr., 1st Sess., 1-2 May and 2 Jun. 1973

(GPO-99-740) Avail: SOD HC \$2.00

A Congressional hearing on the gasoline and fuel oil shortage is presented. The impact of the shortages on the overall economy of the nation is analyzed. The outlook for the fuel situation in the period 1972 through 1975 is examined. Methods for correcting the fuel shortage are proposed. The government policy with respect to resources management and fuel allocations is discussed. The economic condition and operating problems of various gasoline and oil companies are reported by selected representatives from these companies.

P.N.F.

N74-21625# Committee on Interstate and Foreign Commerce (U. S. House).

TRANSPORTATION CONTROLS UNDER THE CLEAN AIR ACT

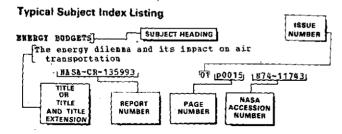
Washington GPO Sep. 1973 64 p refs Presented to Comm. on Interstate and Foreign Com., 93d Congr., 1st Sess., Sep. 1973

(GPO-20-345) Avail: Subcomm. on Public Health and Environment

A Congressional investigation of the provisions of the Clean Air Act and the effects on various parts of the economy, especially the transportation aspects, was conducted. The subjects discussed are: (1) Environmental Protection Agency, (2) reaction to proposed transportation control strategies, (3) relationship between new car emission standards and transportation controls. The majority of the information consists of testimony from selected persons with expertise in the environmental protection subjects. P.N.F.

ENERGY / A Continuing Bibliography (Suppl. 02)

NOVEMBER 1974



The subject heading is a key to the subject content of the document. The title or title and title extension provides the user with a brief description of the subject matter. The report number beins to indicate the type of document cited (eg., NASA report, translation, NASA contractor report). The issue page and accession numbers are located beneath and to the right of the title eq., Q1 p 0015 N74-11743. Under any subject heading the accession numbers are arranged in sequence with the IAA accession numbers appearing first.

AC GREERATORS

Voight variable speed drive --- for windpowered generator

02 p0057 N74-16779

ACCRURROMETERS

Quarterly bulletin of the Division of Bechanical Engineering and the National Aeronautical Establishment, 1 July - 30 September 1973 reports on reynolds number effects, energy in transportation, and wave buoy accelerometer [DBE/NAE-1973(3)] 01 p0023 174-13673

ACTUATORS

Turbo-actuators turn flow into mechanical output -- power conversion for missile control or pneumatic systems

02 p0041 A74-27136

ABBIAL PHOTOGRAPHY

Strip-mined watershed hydrologic data acquisition study --- remote infrared aerial photography [PB-223558/8GA] 01 p0025 N74-14105

Wind-powered machines -- design, aerodynamic

characteristics, and economics
[NLSA-TI-F-15149] 02 p0045 N74-15742

An introduction to the Princeton sailwing windmill 02 p0056 N74-16769

The effect of aerodynamic parameters on power output of windmills

02 p0056 N74-16773

AEBODYBABIC CONFIGURATIONS

Refan program. Phase 1: Summary report
[NASA-TH-X-71456] 01 500 01 p0009 N74-10043

AEROBAUTICAL ENGINEERING

Does research in the field of aeronautics have a future --- emphasis on aircraft design refinements and cost reduction

02 p0041 174-25723 guarterly bulletin of the Division of Bechanical Engineering and the Bational Aeronautical Establishment, 1 July - 30 September 1973 -

reports on reynolds number effects, energy in transportation, and wave buoy accelerometer [DME/NAE-1973(3)] 01 p0023 N74-01 p0023 x74-13673

ARROSPACE SCIENCES

Industrial use of aerospace technology 01 p0002 A74-12905

ABBOSPACE VEHICLES

Section 4: Propulsion and energy

01 p0026 N74-14671

1PRTC1

Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration --- geophysical prospecting and fishing areas [PB-225036/3GA] 02 p0065 N74-18073

APTERBURNING

The influence of individual components and of their mechanical arrangement on the stationary operating behaviour of dual cycle propulsion engines

02 p0079 N74-20444

Compact to conserve oil and gas

02 p0053 N74-16668

AGRICULTURE

Utilization of wind power in agriculture in the USSE [NASA-TT-F-15345] 02 p0046 N74-19
Using the energy of the wind for electrification
[NASA-TT-F-15307] 02 p0060 N74-19 02 p0046 N74-15752 02 p0060 N74-16801

AIR CURRENTS

Exploitation of wind energy --- windmill feasibility in industrial applications [NASA-TT-P-15309] 02 p00 02 p0055 N74-16756

AIR POLLUTION Conversion of fuel nitrogen to NOr in a compact

combustor ASHE PAPER 73-WA/GT-21 01 p0002 a74-13293

aviation fuels and lubricants

01 p0006 A74-18180

The jet engine design that can drastically reduce oxides of nitrogen

[AIAA PAPER 74-160] 01 p0006 A74-18797 Modelling of combustors - The effects of ambient

conditions upon performance

02 p0040 A74-25217 The association of automotive fuel composition

with exhaust reactivity [PB-222609/0] (PB-222609/0] 01 p0010 N74-10129 Catalytic combustion of carbon monoxide in

gasoline engine exhaust using manganese catalysts

[AD-760395] 01 p0011 H74-10874 Energy demand and its effect on the ennvironment [P-5048] 01 p0017 H74-11790 Substitute catalysts for platinum in automobile

emission control devices and petroleum refining Γ PB-222167/9 1 01 p0018 N74-11941 Present air pollution situation in Kawasaki city

and future countermeasures

[KS-27] 01 p001 Effect of water injection on mitric oxide 01 p0018 N74-12321 emissions of a gas turbine combustor burning natural gas fuel

[NASA-TH-X-2959] 01 p0025 N74-14651 EPA pollution regulations and fuel shortage: The impact on wass transit

Aldehyde and reactive organic emissions from motor vehicles. Part 1: Advanced automotive control systems vehicles

{PB-224251/9GA] 02 p0050 N74-16332

Aldehyde and reactive organic emissions from motor vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles

[PB-224252/7GA] 02 p0050 874-163:
Assessment of 502 control alternatives and
implementation patterns for the electric utility 02 p0050 N74-16333

inďustry [PB-224119/8GA]

[PB-224119/8GA]
Proceedings, Coal Combustion Seminar --- with
emphasis on control of air pollutant emissions
| PR-224210/5GA] 02 p0051 #74-16627 02 p0050 N74-16339 AIR PURIPICATION SUBJECT INDEX

```
NAS report on technological feasibility of
1975-1976 motor vehicle emission standards.
critique of the 1975-1976 Federal automobile
                                                                                                   AIR TO AIR REFUELING
                                                                                                        performance simplified aerial refueling store
--- operational test of bose reel assembly and
        emission standards for hydrocarbons and oxides
                                                                                                           control system [AD-771389]
        of nitrogen
           PB-224863/1G1] 02 p0065 R74-18287 report on technological feasibility of
        [PB-224863/1G1]
                                                                                                                                                              02 00064 874-17799
                                                                                                   AIR TRAFFIC CONTROL
        1975-1976 motor vehicle emission standards.
Automotive spark ignition engine emission
control systems to meet the requirements of the
                                                                                                       Power conditioning system for FAA Air Route
Traffic Control Centers
                                                                                                        01 p0004 A74-14133 The fuel crisis and the controller --- turbojet
     control systems to meet the requirements of the 1970 clean air amendments O2 p0065 874-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy
                                                                                                           aircraft descent trajectories for fuel
                                                                                                           consumption reduction
                                                                                                                                                              02 p0034 A74-19726
                                                                                                       Power conditioning system for FAA air route traffic control centers
        of Sciences
                                                                                                                                                              01 p0019 N74-12636
     [PB-224861/5GA] 02 p0065 K74-18289
WAS report on technological feasibility of
1975-1976 motor vehicle emission standards
                                                                                                       Bnergy problems in air transportation --- options
for demand reduction, efficiency increase and
                                                           02 p0066 N74-18291
        [PB-224858/1GA]
                                                                                                           fuel alternatives
     MAS report on technological feasibilities of
1975-1976 motor vehicle emissions standards.
Manufacturability and costs to proposed
                                                                                                                                                              02 p0033 A74-19479
                                                                                                        Airports evolution and qualification
                                                                                                                                                              02 p0033 A74-19481
        Nanufacturability and copies to properly low-emission automotive engine systems (PB-224864/9GA] 02 p0066 R74~18292
                                                                                                        The implications for air transportation of energy
    [PB-224864/9GA] 02 p0066 N7/
Compilation of air pollutant emission factors
                                                                                                           shortage
                                                                                                                                                              02 p0033 A74-19486
        (second edition)
                                                                                                        The energy dilemma and its impact on air
        [PB-223996/0GA]
                                                                                                           transportation
     NAS report on technological feasibility of
1975-1976 motor vehicle emissions standards.
Feasibility of meeting the 1975-1976 exhaust
                                                                                                           [ NASA-CR-1359931
                                                                                                                                                              01 p0015 ¥74-11743
                                                                                                        The air transportation/energy system
                                                                                                                                                              01 p0016 #74~11745
     emission standards in actual use
[PB-224665/6GA] 02 p0066 N74-18303
A critical review of mathematical diffusion
                                                                                                        Energy conservation and air transportation
                                                                                                                                                              01 p0016 N74-11746
                                                                                                        Conclusions and recommendations --- for problems
        modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 H74-18304
                                                                                                           in energy situation, air transportation, and
                                                                                                           hydrogen fael
                                                                                                                                                              01 p0016 #74-11748
     Atmospheric emissions from the petroleum refining
                                                                                                       Energy trends and their future effects upon
transportation --- applied to rail, truck, and
    industry
[PB-225040/5GA]
Potential pollutants in fossil fuels
[PB-225039/7GA]
02
                                                           02 p0066 N74-18305
                                                                                                       air cargo operations and private energy uses [P-5046] 01 p0017 N74-11791 Where are we headed in air transport? --- trends
                                                           02 p0066 N74-18313
     WAS report on technological feasibility of
1975-1976 motor vehicle emission standards.
evaluation of alternative power sources for
                                                                                                           for future aircraft design
                                                                                                                                                              01 pd020 #74-12669
                                                                                                       hir mobility fuel cell study --- desulfurization
        low-emission automobiles. National Academy of
                                                                                                          of JP-4 fuel
        Sciences
                                                                                                          [AD-766757]
                                                                                                                                                              01 p0022 N74-12742
    [PB-224859/9GA] 02 p0067 N74-18406
BAS report on technological feasibility of
1975-1976 motor vehicle emission standards.
Evaluation of catalyst as automotive enhaust
treatment devices, National Academy of Sciences
[PB-224850/7GA]
Air pol lytion aspects of emission sources:
                                                                                                        Economics of air transport --- direct and indirect
                                                                                                           costs
                                                                                                           [ NASA-TT-F-15249 ]
                                                                                                                                                              01 p0026 N74~14682
                                                                                                  AIRCRAFT BRAKES
Fluid power for aircraft: Hodern hydraulic
    [PB-224860/7GA] 02 p0067

Air pollution aspects of emission sources:
Petroleum refineries; a bibliography with
                                                                                                           technology /2nd edition/
                                                                                                   AIRCRAFT CONTROL
        abstracts
                                                                                                       Aircraft symmetric flight optimization ---
gradient techniques for supersonic aircraft
        FAP-1101
                                                           02 p0073 N74-19228
     Determination of optimal air pollution control
                                                                                                           control
        strategies
                                                                                                                                                              02 p0036 A74-23091
                                                           02 p0073 N74-19229
                                                                                                   AIBCRAFT DESIGN
    Report by the Committee on Motor Vehicle Emissions
02 p0073 N74-19240
                                                                                                       The technology and economics of commercial
                                                                                                          airplane design. I
    A study of mandatory engine maintenance for
                                                                                                                                                             01 p0001 A74-10144
        reducing vehicle exhaust emissions. Volume 7: h user's manual and guide to the economic effectiveness computer program
                                                                                                       Airline airplanes for the eightics - A response --- emphasizing system efficiency and fuel savings
                                                                                                                                                              02 p0036 A74-23464
        [PB-225161/9GA]
                                                                                                       Does research in the field of aeronautics have a future --- emphasis on aircraft design
                                                           02 p0073 N74-19268
    A study of mandatory engine maintenance for reducing vehicle exhaust emissions. Volume 8:
                                                                                                          refinements and cost reduction
        Experimental characterization of vehicle
                                                                                                       Where are we headed in air transport? --- trends
    emissions and maintenance states
[PB-225026/46A] 02 p0074 N74-19269
Jet engine exhaust emissions of high altitude
commercial aircraft projected to 1990
[NASA-TM-X-3007] 02 p0079 N74-20591
                                                                                                          for future aircraft design
                                                                                                                                                              01 p0020 N74-12669
                                                                                                       Aeronautical fuel conservation possibilities for advanced subsonic transports --- application of
    Transportation controls under the Clean Air Act
                                                                                                          aeronautical technology for drag and weight
                                                                                                          reduction [NASA-TM-X-71927]
       clean air policy on transportation [GPO-20-345] 02
                                                                                                                                                              02 D0080 N74-20654
                                                           02 p0082 N74-21625
                                                                                                  AIRCRAFT REGINES
AIR PURIFICATION
                                                                                                       High energy radiography - A new technique in the development of efficiency and integrity in aero
    Combustion of the gases methane, LP gas and ammonia in a mixing reactor --- air pollution control device
                                                                                                          gas-turbine engines
                                                                                                                                                             02 p0035 A74-21316
       [ POA-1-C-1442-H3]
                                                          01 p0022 N74-12824
                                                                                                       The environment and the gas turbine
                                                                                                                                                             02 p0035 A74-21874
                                                                                                       Astafan - A new concept from Turboneca ---
                                                                                                          constant speed ducted turbofan engine
                                                                                                                                                             02 p0037 174-24697
```

| A model of convex programming for turbojet main | AIRLINE OPERATIONS |
|---|--|
| narameter selection optimization | The technology and economics of commercial |
| TASHE PAPER 74-GT-791 02 p0042 174-27466 | airplane design. 1 01 p0001 174-10144 |
| Engine sensory requirements for energy management 02 p0043 A74-28311 | The fuel crisis and the controller turbojet |
| Refan program. Phase 1: Summary report | aircraft descent trajectories for fuel consumption reduction |
| [NASA-TH-1-71456] 01 p0009 N74-10043 Aviation gas turbine engines (selected portions) | 02 p0034 A/4-19/26 |
| [AD=756810] 01 p0011 K/4=10/51 | The airship can meet the energy challenge 02 p0034 A74-20166 |
| By-pass engines characteristics of USSR | similing eightness for the eighties - A response |
| aircraft engines for jet aircraft [AD-772723] 02 p0074 k74~19413 | emphasizing system efficiency and fuel savings 02 p0036 A74-23464 |
| Engine cycle selection for commercial STOL aircraft | The potential for energy conservation in |
| effect of aircraft requirements and operational characteristics on engine parameters | commercial air trapsport |
| 02 p00/9 N/4-20408 | [R-1360-MSF] 02 P0070 M74-18000 |
| Problem of the application of turbofan engines in | AIRPORT PLANNING Airports evolution and qualification |
| air transport. Methods of increase in efficiency of turbofan engine with high bypass | 02 puuss 874-1540 t |
| ratios | Aviation needs and public concerns discussing noise, fuel and airport problems |
| [AD-773292] 02 p0079 N74-20453 | 02 p0062 N74-17685 |
| AIRCRAFT FUEL SYSTEMS Aircraft fuel system tests with gelled | The airship can neet the energy challenge |
| fuel-flowmeter calibration, fuel boost pump and | 02 P0034 R14-20100 |
| jettison tests [FAA-NA-73-43] 01 p0017 N74-11828 | The Dolphin airship with undulating propulsion |
| AIRCRAFT FUELS | system - A new form of the evaluation factor 02 p0035 174-22272 |
| The hydrogen fuel economy and aircraft propulsion farms paper 73-13197 01 p0006 A74-17905 | Onboard energy sources and propulsion systems for |
| Aviation fuels and lubricants | balloons |
| 01 p0006 A74-18180 | STERNIA |
| Hydrogen - Make-sense fuel for an American supersonic transport | Investigations using data in Alabama from BRTS-A |
| fataa pappa 74-1631 02 p0033 A74-19353 | land use, mineral exploration, geology, hydrology, water resources, data processing, |
| Energy problems in air transportation options for demand reduction, efficiency increase and | data management, marine environments |
| fuel alternatives | [E74-10124] 01 p0023 N/4-13031 |
| 02 p0033 A74-19479 | MAISKA Surface wind characteristics of some Aleutian |
| The implications for air transportation of energy shortage | Islands for selection of windpowered machine |
| 02 p0033 174-19486 | sites 02 p0056 R74-16766 |
| Aviation turbine fuels, 1972 01 p0014 N74-11592 | rems_1 imagery use in reconnaissance prospecting: |
| Aircraft fuel system tests with gelled | Evaluation of commercial utility of ERTS-1 |
| fuel-flowmeter calibration, fuel boost pump and | imagery in structural reconnaissance for minerals and petroleum |
| jettison tests [PAA-NA-73-43] 01 p0017 N74-11828 | [E74-10345] 02 p0082 N74-20948 |
| Prospects for liquid hydrogen fueled commercial | ALDERYDES Aldehyde and reactive organic emissions from motor |
| aircraft | vehicles. Part 1: Advanced automotive control |
| ATROPART HYDRAULTC SYSTEMS | systems vehicles |
| Pluid power for aircraft: Modern hydraulic | Aldehyde and reactive organic emissions from motor |
| technology /2nd edition/ 02 p0036 174-23376 | webicles Part 2: Characterization or |
| AIRCRAFT INDUSTRY | emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 |
| The implications for air transportation of energy | ALTERBATING CURRENT |
| shortage 02 p0033 174-19486 | On the theory of alternating-current |
| Aviation needs and public concerns civil | electrofluiddynamic converters 01 p0007 A74-18988 |
| aviation growth in Europe and environmental control | ALUMINUM |
| - 01 p002/ N/4-14/49 | A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel |
| ATECRAPT MAINTENANCE Fluid power for aircraft: Modern hydraulic | [WASA-CASE-MFS-22562-1] 02 p0076 N/4-19700 |
| +echnology /2nd edition/ | ANALOG SIMULATION Solar generator simulation for satellite projects |
| 02 p0030 R14-23370 | analog models of volt-ampere characteristics |
| Refan program. Phase 1: Summary report | 02 p0041, A/4~26324 |
| rwaca_mw_Y_716567 | ANTENNAS Antenna towers as wind tower generation plants |
| Aviation needs and public concerns discussing noise, fuel and airport problems | [NASA-TT-F-15304] 02 p0047 N74-15763 |
| 02 p0062 k/4-1/605 | ANTIREFIECTION CONTINGS Vitreous oxide antireflection films in |
| AIRCRAFT PERFORMANCE The case for hydrogen fueled transport aircraft | high-efficiency solar cells |
| 7111 01000 77-17271 01 DUUUZ A/4~11313 | 01 p0004 A74-14250 Optical coatings for semiconductor photovoltaic |
| performance and noise aspects or supersonic | converters and solar energy concentrators |
| transport 01 p0003 174-13798 | 02 p0039 A74-24924 |
| Engine sensory requirements for energy management 02 p0043 174-28311 | ANTISUBMARINE WARPARE Relicopter applications at sea |
| regine cycle selection for commercial STOL aircraft | 02 p0034 A74-19690 |
| offort of aircraft ISCUITEMENTS and | APSIDES Effect of the sun, the moon and solar radiation |
| operational characteristics on engine parameters 02 p0079 N74-20408 | pressure on a near-equatorial synchronous |
| accompatical fuel conservation possibilities for | satellite 01 p0003 A74-13559 |
| advanced subsonic transports application of aeronautical technology for drag and weight | ARC HEATING |
| reduction | Reating of a substance by an arc plasma 01 p0001 174-10463 |
| [NASA-TH-X-71927] 02 p0080 N74-20654 | |
| | • • |

| ARGON PLASNA | WAS report on technological feasibility of |
|---|--|
| Characteristics of a nonequilibrium MHD generator | 1975-1976 motor vehicle emission standards. An |
| 01 p0005 A74-17439 | evaluation of alternative power sources for |
| Loss mechanisms in an MHD generator Book on | low-emission automobiles, National Academy of |
| argon plasma nonequilibrium Paraday generator | Sciences |
| efficiency | [PB-224859/9GA] 02 p0067 N74-18406 |
| 02 p0033 A74-19455 | Low NOx emission combustor development for |
| ATLANTIC OCEAN | automobile gas turbine engines |
| Review of the results from the Eastern Atlantic | [PB-225133/8GA] 02 p0067 N74-18414 |
| Continental Margin Program of the International | Report by the Committee on Motor Vehicle Emissions |
| Decade of Ocean Exploration geophysical | 02 p0073 k74-19240 |
| prospecting and fishing areas | A study of mandatory engine maintenance for |
| [PB-225036/3GA] 02 p0065 N74-18073 | reducing vehicle exhaust emissions. volume 7: |
| ATHOSPHERIC DIPPOSION | A user's manual and guide to the economic |
| A critical review of mathematical diffusion | effectiveness computer program |
| modeling techniques for predicting air quality | [PB-225161/9GA] 02 p0073 N74-19268 |
| with relation to motor vehicle transportation | A study of mandatory engine maintenance for |
| [PB-224656/9GA] 02 p0066 N74-18304 | reducing wehicle exhaust emissions. volume 8: |
| ATHOSPHERIC NODELS | Experimental characterization of vehicle . |
| A critical review of mathematical diffusion | emissions and maintenance states |
| modeling techniques for predicting air quality | [PE-225026/4GA] 02 p0074 N74-19269 |
| with relation to motor wehicle transportation | AUTOHOBILE FUELS |
| [PB-224656/9GA] 02 p0066 N74-18304 | Performance of Army engines with leaded and |
| ATHOSPHERIC TURBULENCE | unleaded gasoline. Phase 1: Laboratory testing |
| Exploitation of wind energy windmill | [AD-766760] 02 p0061 R74-17523 |
| feasibility in industrial applications | AUTOHOBILES |
| [NASA-TT-F-15309] 02 p0055 N74-16756 | Blectric vehicle battery research and development |
| ATTITUDE CONTROL | [NASA-TM-X-71471] 01 p0012 N74-10946 |
| Photosensitive elements for solar sensors | Substitute catalysts for platinum in automobile |
| 01 p0005 A74-17296 | emission control devices and petroleum refining |
| AUSTRALIA | [PB-222167/9] 01 p0018 N74-11941 |
| Electricity: The conversion industry | Exploratory development of a glass ceramic |
| [NP-19837] 02 p0072 N74-18730 | automobile thermal reactor anti-pollution |
| AUTOHOBILE ENGINES | devices |
| The association of automotive fuel composition | [NASA-CR-134513] 01 p0019 N74-12447 |
| with exhaust reactivity | Wind power demonstration and siting problems |
| [PB-222609/0] 01 p0010 N74-10129 | for recharging electrically driven automobiles |
| Vapor generator feed pump for Rankine cycle | 02 p0056 N74-16765 |
| automotive propulsion system (Chandler Evans) | Determining the effects of gasoline price on use |
| [PB-222849/2] 01 p0011 H74-10747 | of metals in automobile manufacture |
| Aldehyde and reactive organic emissions from motor | [BM-RI-7871] 02 p0062 N74-17666 |
| vehicles. Part 1: Advanced automotive control | NAS report on technological feasibility of |
| systems vehicles | 1975-1976 motor vehicle emission standards. |
| [PB-224251/9GA] 02 p0050 N74-16332 | Evaluation of catalyst as automotive exhaust |
| Aldehyde and reactive organic emissions from motor | treatment devices, National Academy of Sciences |
| | |
| vehicles. Part 2: Characterization of | [PB-224860/7GA] 02 p0067 N74-18407 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles | [PB-224860/7GA] 02 p0067 N74-18407 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7Ga] 02 p0050 N74-16333 | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AURILIARY FORER SOURCES |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/76A] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AUXILIARY FOWER SOURCES Investigation of chemical APU application for |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/IGA] 02 p0065 N74-18287 NAS report on technological feasibility of | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-145] 02 p0082 N74-21625 AUXILIARY POWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-16287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GF0-20-345] 02 p0082 N74-21625 AUXILIARY POWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-16287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments | [PB-224860/7GA] 02 p0067 N74-18407 Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AURILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N7a-18288 | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AURILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOON FLIGHT |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7Ga] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-345] AURILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] B BALLOOW FLIGHT Study of fuel cell system for powered balloon reusable powerplants |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AURILIANY POWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOOM FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-16287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-145] 02 p0082 N74-21625 NUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOOM FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 | Transportation controls under the Clean Air Nct Congressional investigation of effects of clean air policy on transportation [GPO-20-145] 02 p0082 N74-21625 NUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0003 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOOM FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AURILIANY POWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOOM FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-145] NURLIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224861/5GA] 02 p0065 N74-18289 | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 NUMILIARY POWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224886/1GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0065 N74-18289 NAS report on technological feasibility of | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 AUXILIANY POWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Solar generators for sounding balloons |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7Ga] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224856/1GA] 02 p0066 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224856/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-345] NUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] BBALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Solar generators for sounding balloons 02 p0040 A74-24940 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0065 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Manufacturability and costs to promosed | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-345] **NURLIARY FOWER SOURCES** Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] **Balloow Flight** Study of fuel cell system for powered balloon reusable powerplants [AD-766253] **Balloow Sounding** The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 **Balloows** Solid state hydrogen gas generator rocket |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224884/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Manufacturability and costs to proposed low-emission automotive engine systems | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 NUMILIARY POWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Solar generators for sounding balloons 02 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Enuracturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-345] NUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] IAD-766253] BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] O1 p0001 A74-11257 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Emmufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-145] **NURLIARY FOWER SOURCES** Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] **Balloow Flight** Study of fuel cell system for powered balloon reusable powerplants [AD-766253] **Balloow Sounding** The use of the pressurized balloon for detecting energy resources **O2 p0033 A74-19473 Solar generators for sounding balloons **O2 p0040 A74-24940 **Balloows** **Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] **Benarics** **O2 p0001 A74-11257 **Benarics** **O1 p0001 A74-11257 **Benarics** **O2 p0001 A74-11257 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-16287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Manufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 NUMILIARY POWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Solar generators for sounding balloons Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] 01 p0001 A74-11257 BBARINGS BEARINGS BEARINGS |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7Ga] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224854/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards [PB-224864/9GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards [PB-224864/9GA] 02 p0066 N74-18291 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control derices | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-345] NUKILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] BRARINGS Bearings for power station plant. A selective bibliography, 1960 - September 1973 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Endiagney of the semission standards [PB-224864/9GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Endiagney of the semission standards [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-345] NURILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] B BALLOOW FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] BALLOOW SOUNDING The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] BEARINGS Bearings for power station plant. A selective bibliography, 1960 - September 1973 [CE-BIB-28B.1] O2 p0073 H74-19113 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-16287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Hanufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-145] 02 p0082 N74-21625 NUMILIARY POWER SOURCES Investigation of chemical APD application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0022 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Solar generators for sounding balloons Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] 01 p0001 A74-11257 BBARINGS BEARINGS BEARINGS BEARINGS 102 p0043 A74-19113 BEDS (PROCESS ENGINEERING) |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Hanufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-224283/6GA] 02 p0066 N74-18294 NAS report on technological feasibility of | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-145] NURLIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] BBALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] BRARINGS Bearings for power station plant. A selective bibliography, 1960 - September 1973 [CE-BIB-28B.1] BEDS (FROCESS ENGINEERIEG) Noncaking coal gasified in a stirred-bed producer |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Manufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-224283/6GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards | Transportation controls under the Clean Air Not Congressional investigation of effects of clean air policy on transportation [GPO-20-145] NURILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] BBALLOOW FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] BALLOOW SOUNDING The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] BEARINGS Bearings for power station plant. A selective bibliography. 1960 - September 1973 [CE-BIB-28B.1] D2 p0073 N74-19113 BEDS (PHOCESS ENGINERING) Noncaking coal gasified in a stirred-bed producer [BB-TFR-77] O2 p0073 N74-19117 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-16287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Manufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-2248243/6GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. PB-224283/6GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. Peasibility of meeting the 1975-1976 expanse | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-145] 02 p0082 N74-21625 AUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0002 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Solar generators for sounding balloons Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] 01 p0001 A74-11257 BEARINGS Bearings for power station plant. A selective bibliography, 1960 - September 1973 [CE-BIB-28B.1] 02 p0073 N74-19113 BEDS (PROCESS ENGINEERING) Noncaking coal gasified in a stirred-bed producer [BH-TPR-77] BIBLIOGRAPHIES |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-16287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Manufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-2248243/6GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. PB-22423/6GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. PB-22423/6GA] 102 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. PB-22433/6GA] 102 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. PB-22423/6GA] 102 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. PB-224028/6GA 102 p0066 N74-18294 | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] NUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] BEARINGS Bearings for power station plant. A selective bibliography, 1960 - September 1973 [CE-BIB-28B.1] BEDS (PHOCRSS ENGINEERING) Noncaking coal gasified in a stirred-bed producer [BM-TPR-77] BIBLIOGRAPHIES Energy: Compiled bibliography and tables of world |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7G1] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Manufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-224243/6GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. Feasibility of meeting the 1975-1976 exhaust emission standards in actual use [PB-224865/6GA] 02 p0066 N74-18294 | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-145] 02 p0082 N74-21625 NUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0003 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0002 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Solar generators for sounding balloons 92 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] 01 p0001 A74-11257 BHARINGS Bearings for power station plant. A selective bibliography. 1960 - September 1973 [CE-BIB-28B.1] 02 p0073 N74-19113 BEDS (PHOCESS ENGINERRING) Noncaking coal gasified in a stirred-bed producer [BH-TPR-77] BIBLIOGRAPHIES Energy: Compiled bibliography and tables of world resources, consumption, and wastes |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7Ga] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224888/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Endiagent automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-22423/5GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. Feasibility of meeting the 1975-1976 exhaust emission standards in actual use [PB-224865/6GA] 02 p0066 N74-18303 A critical review of mathematical diffractor | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-145] 02 p0082 N74-21625 AUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 N74-10082 Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] 01 p0002 N74-12742 B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] 01 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Solar generators for sounding balloons Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] 01 p0001 A74-11257 BEARINGS Bearings for power station plant. A selective bibliography, 1960 - September 1973 [CE-BIB-28B.1] 02 p0073 N74-19113 BEDS (PHOCESS ENGINEERING) Noncaking coal gasified in a stirred-bed producer [BH-TPR-77] 02 p0073 N74-19117 BIBLIOGRAPHIES Energy: Compiled bibliography and tables of world resources, cobsumption, and wastes [LRP-63/73] 01 p0010 N74-10391 |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7GA] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon donoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224858/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Manufacturability and costs to proposed low-emission automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-224243/6GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. Peasibility of meeting the 1975-1976 exhaust emission standards in actual use [PB-224865/6GA] 02 p0066 N74-18303 A critical review of mathematical diffusion modeling techniques for predicting air gnality | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-345] NUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] BBALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] BEARINGS Bearings for power station plant. A selective bibliography, 1960 - September 1973 [CE-BIB-28B.1] BEDS (PHOCRSS ENGINEERING) Noncaking coal gasified in a stirred-bed producer [BH-TPR-77] BIBLIOGRAPHIES Energy: Compiled bibliography and tables of world resources, consumption, and wastes [LRP-63/73] Energy R and D inventory data base. Bibliography, |
| vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles [PB-224252/7Ga] 02 p0050 N74-16333 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 N74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments [PB-224862/3GA] 02 p0065 N74-18288 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences [PB-224861/5GA] 02 p0065 N74-18289 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards [PB-224888/1GA] 02 p0066 N74-18291 NAS report on technological feasibilities of 1975-1976 motor vehicle emissions standards. Endiagent automotive engine systems [PB-224864/9GA] 02 p0066 N74-18292 Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-22423/5GA] 02 p0066 N74-18294 NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. Feasibility of meeting the 1975-1976 exhaust emission standards in actual use [PB-224865/6GA] 02 p0066 N74-18303 A critical review of mathematical diffractor | Transportation controls under the Clean Air Act Congressional investigation of effects of clean air policy on transportation [GPO-20-145] NUXILIARY FOWER SOURCES Investigation of chemical APU application for small ground power sources [AD-765724] Air mobility fuel cell study desulfurization of JP-4 fuel [AD-766757] B BALLOON FLIGHT Study of fuel cell system for powered balloon reusable powerplants [AD-766253] O1 p0009 N74-10083 BALLOON SOUNDING The use of the pressurized balloon for detecting energy resources O2 p0033 A74-19473 Solar generators for sounding balloons O2 p0040 A74-24940 BALLOONS Solid state hydrogen gas generator rocket deployed balloons inflation [AIAA PAPER 73-1232] BEARINGS Bearings for power station plant. A selective bibliography. 1960 - September 1973 [CE-BIB-28B.1] BEDS (PHOCESS ENGINEERING) Noncaking coal gasified in a stirred-bed producer [BH-TPR-77] BIBLIOGRAPHIES Energy: Compiled bibliography and tables of world resources, consumption, and wastes |

| Selected list of Bureau of Mines pu | | <u></u> | |
|--|--|---|--|
| petroleum and natural gas, 1961-1 [BM-IC-8534] 0 | 1 p0032 N74-15691 | C | |
| A bibliography of non-technical lit | erature on energy 2 p0051 N74-16641 | CADMIUM SULFIDES Results and future prospects on p | hotovoltaic power |
| A bibliography of Congressional pub energy from the 89th Congress to | lications on 1 July 1971 | development in France | 02 p0037 174-24904 |
| 0 Econometric models: Their applicat | 2 p0051 N74-16642 | New technology for CdS-Cu25 solar reliability | 02 p0038 A74-24910 |
| economic and energy sectors | 2 p0062 N74-17660 | The present potential of Cds solar future contender for photovoltage | r cells as a |
| journal of energy research [ORNL-BIS-73-52-VOL-1-NO-9] 0 | 2 p0062 N74-17680 | terrestrial power applications Partial results concerning CdS so | 02 p0038 A74-24911 |
| | 2 p0071 N74-18638 | Terrestrial utilization of CdS-Cu | UZ PUU38 A/4-24914 |
| Bearings for power station plant. bibliography, 1960 - September 19 [CE-BIB-28B.1] | 73 2 p0073 N74-19113 | photocells in the south of Fran | 02 p0038 A74-24915 |
| Air pollution aspects of emission s Petroleum refineries; a bibliogra | ources: | On inhomogeneities of thin film s | 02 PUU39 A/4-24916 |
| abstracts [AP-110] | 2 p0073 N74-19228 | Current prospects for solar cells | 02 p0040 174-24943 |
| Energy research and development: & reading list | selected | Photoelectric converters based on heterojunctions | 02 p0042 A74-27752 |
| [ORNL-EIS-73-65] Energy sources - Citations from the |)2 p0080 N74-20627 e early DDC | CALIBRATING | |
| collections | 02 p0081 #74-20705 | Current delivered by the solar and D2A-Tournesol satellite | |
| BIORLECTRICITY Solar energy by photosynthesis | - | CALIFORNIA | 02 p0039 A74-24928 |
| conversion systems modeled on pho | ptosynthesis 12 p0042 174-27322 | A methodology for projecting the demand of the manufacturing see [R-991-WSF/CSRA] | 02 p0053 N74-16673 |
| <pre>FIOSYNTHESIS Clean fuels from biomass feasily converting plant systems to fuels</pre> | oility of | <pre>Fuel from organic matter: Possi state of California</pre> | |
| [NA SA-TH-X-71538] | 02 p0077 N74-19706 | [P-5107] A methodology for projecting the | 02 p0054 N74-16674 electrical energy |
| BITUMENS Bitumen-bearing rocks as potentions sources | * | demand of the commercial sector | r in Calliornia 02 p0054 N74-16679 |
| BLADES | 01 p0028 N74-15226 | meeting California's energy requ | 02 p0076 N74-19629 |
| Observations on modern wind-electrical observations on modern wind-electrical observations on modern wind-electrical observations of the control of the cont | onstruction | Final environmental statement fo leasing program. Volume 2: 1 geothermal resources in three | easing of |
| [NASA-TT-F-15357] BOILERS | 02 P0045 N/4-15/45 | Energy alternatives for Californ | 02 p0078 N74-19975 |
| Energy recovery from waste: Solid supplementary fuel in power plan | waste as t boilers | crisis. 1: The impact of Ara | b oil export |
| [SW-36D.II] ROLIVIA | 02 P00/P #/4-19699 | policies on the California ene [P-5146] | 02 p0080 N74-20621 |
| Petroleum exploration subprogram: interpretation of proportional i | Geological magery from | Coping with the fuel shortage: Ingeles residents [P-5154] | 02 p0080 N74-20622 |
| | 01 p0028 N74-15020 | CAMADA ERTS-1 imagery use in reconnaiss | · . |
| Oil exploration subprogram geologi interpretation of images provide satellite Bolivia | d by the ERTS-A | Evaluation of commercial utili imagery in structural recomman | ty of ERTS-1 |
| [NASA-TT-F- 15265] | 01 p0028 N74-15070 | minérals and petroleum [E74-10345] | 02 p0082 N74-20948 |
| On the theory of alternating-curre | nt . | CARBON DIOXIDE Physical behaviour of some biowa | ste gases in an |
| | 01 p0007 A74-18988 | ion engine [AIAA PAPER 73-1113] | 01 p0001 A74-10691 |
| BOUNDARY LAYER PLOW Design considerations for the airf | rame-integrated | CARROR HONOXIDE Oxidation of carbon monoxide in | diluted combustion |
| scramjet [NASA-TM-X-2895] BOUNDARY LUBRICATION | 01 p0019 N74-12448 | products at engine idling cond | itions 02 p0041 174-25221 |
| Aviation turbine fuel and its lubr | | Catalytic combustion of carbon a gasoline engine exhaust using | manganese catalysts |
| BREEDER RELCTORS | 02 p0035 174-22271 | [AD-760395] CARGO AIRCRAFT | 01 p0011 N74-10874 |
| Nuclear eclectic power selecti | ve assessment of 02 p0041 A74-27320 | The airship can meet the energy CATALTSTS | 02 p0034 A74-20166 |
| BUCKETS | | Catalytic combustion of carbon gasoline engine exbaust using | onozide in manganese catalysts |
| Bucket rotor wind-driven generator | 02 p0057 N74-16776 | [AD-760395] Substitute catalysts for plating | 01 p0011 N74-10874 in in automobile |
| BUILDINGS Wind power systems for individual electric power supplies for home | es | emission control devices and p | petroleum refining 01 p0018 N74-11941 |
| Technical options for energy conse | Q2 pQ058 N74-16/88 | NAS report on technological fea: 1975-1976 notor vehicle emissi | ion standards. |
| buildings [NBS-TN-789] | 02 p0071 N74-18724 | Evaluation of catalyst as auto treatment devices, National A- [PB-224860/7GA] | cademy of Sciences 02 p0067 N74-18407 |
| BUOYS A wind plant to power sea signals [NASA-TT-F-15356] | 02 p0060 N74-16803 | The 1.5-km fuel cell powerplant investigation | catalyst |
| [MW2W-II-I 12220] | | [AD-774274] | 02 p0081 #74-20710 |

| CATALYTIC ACTIVITY | An economic evaluation of MED-steam powerplants |
|---|---|
| The refining of turbine fuels by modern hydrotreating | employing coal gasification |
| [Alah PAPER 74-162] 01 p0006 A74-18798 CENTRIPUGAL PORCE | |
| Purification of fuel oils by centrifugal force | emphasis on control of air pollutant emissions [PB-224210/5GA] 02 p0051 M74-16627 |
| 02 p0034 A74-20216 | Balancing the demand and supply of coal |
| CHRANICS Exploratory development of a glass ceramic | 02 DO052 N74-16658 |
| automobile thermal reactor anti-pollution devices | Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor |
| [NASA-CR-134513] 01 p0019 874-12447 CESIUM DIODES | Study of application of ERTS-1 imagery to |
| Thermionic energy conversion. Volume I - Processes and devices Book | fracture-related mine safety hazards in the coal mining industry [E74-10336] 02 p0065 H74-18012 |
| CESIUE VAPOR 01 p0004 A74-14327 | Fracture of coal and oil shale for in aitu processing or remote removal: A proposal |
| Electric power generation system directly from laser power | support document [SLA-73-946] 02 p0073 874-19047 |
| [NASA-CASE-NPO-13308-1] 02 p0077 N74-19702 CHANNEL PLON | Noncaking coal gasified in a stirred-bed producer [BM-TPR-77] 02 p0073 x74-19117 |
| Qualitative analysis of the efficiency of BED energy conversion | Energy program, 1972 [BM-IC-8612] 02 p0080 M74-20619 |
| CHRHICAL ANALYSIS 01 p0003 A74-13944 | COAL GASIFICATION |
| Aviation turbine fuels, 1972 | Moncaking coal gasified in a stirred-bed producer [BH-TPR-77] 02 p0073 N74-19117 |
| CHEMICAL PROPERTIES 01 p0014 N74-11592 | COLORADO BRTS-1 imagery use in reconnaissance prospecting: |
| Performance of Army engines with leaded and | Evaluation of the commercial utility of ERTs-1 |
| unleaded gasoline. Phase 1: Laboratory testing [AD-766760] 02 p0061 N74-17523 | imagery in structural reconnaissance for |
| CHEMICAL REACTIONS | minerals and petroleum interpretation of Colorado region |
| Effect of finite chemical reaction rates on heat | [B74-10007] 01 n0013 N74-11148 |
| transfer to the walls of combustion-driven supersonic MHD generator channels | ERTS-1 imagery use in reconnaissance prospecting: |
| 02 p0036 A74-23221 | Evaluation of commercial utility of ERTS-1 imagery in structural reconnaissance for |
| CIRCUIT BREAKERS | minerals and petroleum |
| Description of the energy source project delivering 1 magajoule in 1 microsecond | [E74-10345] 02 p0082 N74-20948 |
| noting high efficiency magnetic energy transfer | COMBUSTION CHAMBERS Modelling of combustors - The effects of ambient |
| by autually coupled inductances and fast | conditions upon performance |
| response electronechanical circuit breakers [LF-3] 02 p0061 N74-17454 | 02 p0040 174-25217 |
| CIVIL AVIATION | Combustion of the gases methane, LP gas and ammonia in a mixing reactor air pollution |
| Airports evolution and qualification | control device |
| 02 p0033 A74-19481 Helicopter applications at sea | [POA-1-C-1442-H3] 01 p0022 B74-12824 Low NOx emission combustor development for |
| 02 p0034 A74-19690 New frontiers of civil aeronantics | automobile gas turbine engines |
| 02 p0041 174-25352 | [PB-225133/8GA] 02 pG067 N74-18414 The influence of individual components and of |
| Aviation needs and public concerns civil | their mechanical arrangement on the stationary |
| aviation growth in Europe and environmental control | operating behaviour of dual cycle propulsion engines |
| 01 p0027 x74-14749 | 02 p0079 N74-20444 |
| Aviation needs and public concerns discussing noise, fuel and airport problems | COMBUSTION EFFICIENCY The hydrogen fuel economy and aircraft propulsion |
| CLEAR ENERGY 02 p0062 N74-17685 | LAIMA PAPER 73-1319] 01 p0006 A74-17905 |
| Mechanisms for achieving cleaner power, prices, regulations energy policy | Modelling of combustors - The effects of ambient conditions upon performance |
| 02 p0069 N74-18596 | 02 p0040 174-25217 Low energy gas utilization in combustion gas turbine |
| Direct energy conversion by means of solar cells | 01 p0029 #74-15447 Aeronautical fuel conservation possibilities for |
| CONI. 02 p0040 A74-24937 | advanced subsonic transports application of |
| Study of application of ERTS-A imagery to | aeronautical technology for drag and weight reduction |
| iracture-related mine safety hazards in the coal | [NASA-TH-X-71927] 02 00080 N74-20654 |
| sining industry Indiana [E74-10083] 01 p0014 874-11195 | COMPUSTION PRODUCTS |
| Directional properties of coal and their | Conversion of fuel mitrogen to NOX in a compact combustor |
| utilization in underground gasification experiments | [ASME PAPER 73-04/GT-2] 01 p0002 174-13293 |
| [BH-TPR-73] 01 p0018 N74-12159 | Oxidation of carbon monoxide in diluted combustion |
| Coal Coal | products at engine idling conditions 02 p0041 A74-25221 |
| 01 p0028 N74-15230 Factors affecting the use of coal in present and | Proceedings, Coal Combustion Seminar with |
| INTUIG epergy makers background namer for | suphasis on control of air pollutant emissions |
| congressional investigation of earth resources | [PB-224210/5GA] 02 p0051 N74-16627 Compilation of air pollutant emission factors |
| and energy policies | (second edition) |
| Analyses of tars, char, gases, and water found in | [PB-223996/0GA] 02 p0066 874-18300 COMBERCIAL AIRCRAFT |
| elituents from the synthane process | The technology and economics of commercial |
| [BE-TPR-76] 02 p0049 N74-15808 Application of ERTS-1 imagery to fracture related | alrplane design. I |
| wine salety nazdros in the coal mining industry | Airports evalution and qualification |
| 1nd 1ana | Airports evolution and qualification 02 p0033 174-19481 |
| [E74-10238] 02 p0049 N74-16007 | V2 pv000 217-19701 |

```
Engine cycle selection for connercial STOL aircraft
         -- effect of aircraft requirements and
      operational characteristics on engine parameters
02 p0079 N74-20408
    Jet engine exhaust emissions of high altitude connercial aircraft projected to 1990 [NASA-TH-X-3007] 02 p0079 N7
                                                         02 p0079 #74-20591
    Prospects for liquid hydrogen fueled commercial
       electeft.
                                                         02 D0080 N74-20647
       [PR-37]
COMMUNICATION SATELLITES
    The solar generator of the telecommunication satellite Symphonie
                                                         02 50039 174-24933
COMBUTATION
    Possibility of commutating thermoelectric
batteries with the aid of mercury amalgam
[An-756068] 01 p0010 F74-10084
       [AD-756068]
COMPOSITE MATERIALS
     Matrices for H3PO4 fuel cells
                                                         01 P0010 N74-10086
       [AD-766312]
     Superflywheel energy storage system --- for
       windpowered machines
                                                         02 p0058 874-16783
COMPRESSED AIR
    Energy storage by compressed air --- using windpowered pumps
                                                         02 p0058 N74-16785
COMPUTER PROGRAMMING
     Calculations on a solar energy system --- for
electric power and heat generation in buildings
[LBL-1773] 01 p0023 N74-13
                                                         01 p0023 N74-13538
COMPUTER PROGRAMS
     Manergy: An energy management model of the United
States for the prediction of energy demand,
resource consumption, environmental effects, the
assessment of new technology, and energy
        resource alternatives
                                                          01 p0026 N74-14665
     Computer program for thermodynamic analysis of
        open cycle multishaft power system with multiple
reheat and intercool
[NASA-TN-D-7589] 02 p0071 N74-187
                                                          02 p0071 N74-18727
COMPUTERIZED DESIGE
     Trends in the mechanization of the coal industry
and guarantee of patent-ability of designs that
are competitive on the world technological level
          -- computerized data retrieval system for
         development of hydraulic equipment
                                                          01 n0016 K74-11759
 COMPUTERIZED SINULATION
     Computer simulation of world dynamics and implications for policy decisions --- substantial interest in energy policies
                                                          02 p0068 174-18585
     Remarks --- computerized simulation of energy demands and financial management
                                                          02 p0068 #74-18589
     A study of mandatory engine maintenance for reducing vehicle exhaust emissions. Volume 7: A user's manual and guide to the economic
         effectiveness computer program
                                                          02 p0073 N74-19268
         [PB-225161/9GA]
 CONCENTRATORS
      Theoretical performance of cylindrical parabolic
         solar concentrators
                                                          01 p0001 A74~10026
      Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972,
         Proceedings
      The second fifteen years in space; Proceedings of
         the Bleventh Goddard Memorial Symposium,
Washington, D.C., March 8, 9, 1973
                                                          01 p0004 A74-14463
      Photovoltaic power and its applications in space
and on earth; International Congress on the Sun
in the Service of Man, Paris, France, July 2-6,
         1973, Proceedings
      Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Prancisco, Calif., November 14-16, 1973, Proceedings
      02 p0041 A74-25901 TERRASTAR: Terrestrial application of solar
         technology and research [NASA-CR-129012]
```

01 p0020 N74-12674

```
Compendium of university forums of the Mational Commission on Materials Policy, May - June 1972.

A background document. MCMP forum on Technological Innovation in the Production and Utilization of Materials at Pennsylvania State University, on 19-21 June 1972

[PB-223679/2GA] 01 p0025 N74-142
                                                        01 p0025 N74-14251
   Compendium of University forces of the National Commission on Materials Policy, May - June 1972.

A background document: University Porum on
   A background document: University Forum on Mational Materials Policy, Massachusetts Institute of Technology on 30 May - 2 June 1972 [PB-223678/46A] Conduction Seminar --- with apphasis on control of air pollutant emissions [PB-224210/56A]
    Balancing supply and demand for energy in the
United States --- conferences
                                                        02 p0051 ¥74-16651
   O2 p
Symposium on Energy, Resources and the
Environment. Volume 1: Session on
International Issues
                                                        02 p0068 N74-18582
       [ #72-69-VOL- 1-REV-2]
    Symposium on Energy, Resources and the
       Reporting on Energy, resources and the Environment. Session on Ethics and Environmental Aspects of the Desand for and Use of Energy, volume 2 --- socioeconomic aspects of energy resource development

[872-69-vol-2-REV-1] 02 p0068 874-1859
                                                        02 p0068 N74-18591
    Symposium on Energy, Resources and the
Environment. Volume 3: Session on Options for
       the Future and their Resources, Economic, and
       Environmental Effects
    02 p0082 ¥74-21619
       F #73-121
CONGRESS
    Rnergy research and development and space technology
                                                         01 p0012 N74-10892
     Solar energy for the terrestrial generation of
       electricity
    Solar-energy for heating and cooling 01 p0016 N74-11787
                                                         01 p0012 874-10896
    Energy research and development: our national effort
                                                         An overview of
                                                         01 p0016 N74-11788
     University energy research centers
                                                         01 p0019 N74-12668
     Energy facts
                                                         01 p0020 N74-12672
     The Pederal Government and energy:
                                                           H and D
        historical background
                                                         01 p0021 N74-12687
                                                       FOLUBE
     An inventory of energy research,
                                                         01 p0021 N74-12688
     an inventory of energy research,
                                                        volume :
                                                         01 p0021 N74-12689
     Short term energy shortages.
                                                         01 p0021 N74-12690
     Energy research and development and space technology 01 p0022 N74-12691
     EPA pollution regulations and fuel shortage: The
        impact on mass transit
                                                          01 p0027 N74-14690
        nergy crisis and small business --- Federal Trade
Commission report on investigation of petroleum
     Energy crisis and small business
        industry
                                                          01 p0027 R74-14691
     Energy research and development, 2
                                                          01 p0027 N74-14692
     Fational Fuels and Energy Conservation Act of 1973 [S-REPT-93-526] 01 p0027 874-14693
     Legislative authority of Pederal agencies with respect to fuels and energy: A staff analysis
                                                          01 p0031 N74-15686
     The President's energy message and S. 1570
                                                          01 p0031 N74-15687
     Sugmary of the energy conservation and development
        recommendations contained in the final report of
the Mational Commission on Materials Policy,
         June 1973: A background paper
                                                          01 50031 874-15688
     Energy conservation, part 1
                                                          01 n0031 N74-15690
```

| A bibliography of non-technical li | | CONTAMINANTS | • |
|--|---------------------------------------|--|--------------------------------------|
| A bibliography of Congressional po | 02 p0051 N74-16641 ublications on | Analyses of tars, char, gases, a effluents from the synthane pr | and water found in |
| energy from the 89th Congress to | > 1 July 1971 02 p0051 N74-16642 | [BH-TPR-76] CONTINENTAL SHELVES | 02 p0049 N74-1580 |
| Energy emergency legislation, part | : 1 | Review of the results from the 1 | Rastern Atlantic |
| Fuel shortages, part 1 | 02 p0052 N74-16662 | Continental Margin Program of Decade of Ocean Exploration | the International |
| Fuel shortages, part 2 | 02 p0053 x74-16664 | prospecting and fishing areas | |
| | 02 p0053 N74-16665 | [PB-225036/3GA] CONTROL EQUIPMENT | 02 p0065 x74-1807 |
| The evolution and dynamics of nati the United States | onal goals in | Substitute catalysts for plating | m in automobile |
| A review of energy issues and the | 02 p0053 N74-16666 | emission control devices and p | 01 m0618 N7#_110# |
| | 02 p0053 N74-16667 | Present air pollution situation and future counterneasures | in Kawasaki city |
| Compact to conserve oil and gas | 02 p0053 N74-16668 | [KS-27] | 01 p0018 N74-1232 |
| Federal Energy Organization: A st | aff analysis | Characterization of particulates non-regulated emissions from m | Obile sources and |
| Geothermal energy resources and re | | the effects of exhaust emission these emissions | as control devices |
| Geothermal energy | 02 p0053 N74-16670 | [PB-224243/6GA l | 02 p0066 874-18294 |
| *- | 02 p0054 N74-16684 | NAS report on technological feas 1975-1976 motor vehicle emissi | nne etandando |
| A review of energy policy activiti Congress | es of the 92d | Peasibility of meeting the 197 emission standards in actual m | 5-1976 exhaust |
| Energy-related research and develo | 02 p0062 N74-17669 | [PB-224865/6GA7 | 02 p0066 N74-18303 |
| | 02 p0070 N74-18605 | CONTROLLED PUSION Nuclear eclectic power selec | tive assessment of |
| Energy conservation and S. 2176, p | 02 D0070 N74-18622 | plant and reactor types | |
| H.R. 11864: Solar Heating and Coo Demonstration Act of 1974. Back | lina | CONVECTIVE HEAT TRANSPER | 02 p0041 174-27320 |
| legislative history | | H2-02 combustion powered steam-H systems | HD central power |
| Concentration by competing raw fue: | 02 p0075 N74-19604 l industries in | CONVENTIONS | 02 p0042 A74-27775 |
| the energy market and its impact business. Volume 2: Tennessee | on small | Compact to conserve oil and gas | |
| [H- REPT-92-1313] | 02 p0075 N74-19606 | COOLING | 02 p0053 N74-16668 |
| Atomic Energy Commission 1 December energy research and development | 1973 report on | A novel method of cooling semicom for power electronics | nductor devices |
| | 02 p0075 N74-19606 | [BMFT-FBT-02] | '01 p0015 N74-11739 |
| | 02 p0075 N74-19617 | Proceedings of the Solar Heating Buildings Workshop. Part 1: | and Cooling for Pechnical |
| The gasoline shortage: A national |)2 D0075 N78-10619 | sessions, March 21 and 22 [PB-223536/4GA] | |
| National energy policy for meeting requirements | US energy | COOLING SYSTEMS | 01 p0025 N74-14499 |
| NASA authorization for fiscal year |)2 p0079 N74-20613 | Computer program for thermodynamic open cycle multishaft power sys | ic analysis of Stem with multiple |
| congressional hearings on fur | ding of NASA | reheat and intercool [NASA-TN-D-7589] | 02 p0071 N74-18727 |
| ' programs | 02 p0082 N74-21605 | COPPER SULFIDES | |
| Conservation of energy | 2 p0082 N74-21620 | Wew technology for CdS-Cu2S solar reliability | cells of high |
| The gasoline and fuel oil shortage | | Terrestrial utilization of CdS-Cu | 02 p0038 174-24910 |
| congressional hearing to determin corrective actions for fuel short | e Causes and age problem | photocells in the south of Fran | ce |
| [GPO-99-740] Transportation controls under the C | 12 m3092 N70-34434 | On inhomogeneities of thin film s | 02 p0038 A74-24915 olar cells |
| Congressional investigation o | f effects of | Current prospects for solar cells | 02 mmn30 x74_24010 |
| clean air policy on transportation [GPO-20-345] | n 2 p0082 n74-21625 | COST AVALYSIS | 02 p0040 A74-24943 |
| CONSERVATION National energy policy | | The energy situation emphasiz | ing various |
| | 1 p0021 N74-12681 | energy sources, costs, and envi | 01 n0016 N76-11744 |
| conservation and reduction of ene | rgy requirements | Energy in transportation ener passenger and cargo transportat | dy costs of |
| Compact to conserve oil and gas | 1 p0026 N74-14667 | | 01 00023 874-13675 |
| | 2 p0053 N74-16668 | Economics of air transport di costs | rect and indirect |
| tp_50033 | | [NASA-TT-F-15249] A Comment on towers for windmills | 01 p0026 ¥74~14682 |
| Energy conservation strategies | 2 p0054 N74-16677 | and economic criteria | |
| [PB-224493/7GA] O Conservation of energy | 2 p0064 N74-17800 | Some extemporaneous comments on o | 02 p0059 ¥74-16795 ur experiences |
| | 2 p0082 N74-21620 | with towers for wind generators | 02 p0059 N74-16796 |
| Han versus His Institutions goal | ls of rational | The economy and practicality of 1 generation stations (conclusion) | arde scale wind |
| eneral bottch | 2 p0070 n74-18603 | [MASA-TT-F-15348] | 02 m0060 N74-16802 |
| Energy: Compiled bibliography and | = | General aviation cost impact study Executive summary | y. Volume 1; |
| fine-carage consumption, and waster | 5 | [AD-771603] General aviation cost impact stud | 02 p0062 N74-17779 |
| [LRP-63/73] | 1 p0010 N74-10391 | mesearch methodology | |
| | • | [AD-771606] | 02 p0062 N74-17780 |

| General aviation cost impact study. Volume 3: | Selected list of Bureau of Mines publications on |
|--|---|
| Planning guide | netrolenm and matural gas, 1961-1970 |
| [AD-771759] 02 p0062 N74-17781 | [BM-IC-8534] 01 p0032 N74-15691 |
| Rnergy conservation strategies | Long run cost trends: Persian Gulf and United |
| f DR-224493/761 02 p0064 N74-17800 | States 02 p0052 N74-16655 |
| A simplified life-cycle cost comparison of various | halancing the demand and supply of oil |
| engines for small helicopter use | 02 p0032 m/4=10030 |
| [NASA-TH-X-71517] 02 p0074 N74-19405 | United States petroleum situation through 1980 |
| Concentration by competing raw fuel industries in | [AD-761576] UZ PUUJ4 M/4-10031 |
| the energy market and its impact on small business. Volume 2: Tennessee Valley area | petroleum: A prediction made in 1950 |
| | (D_51353 UZ DUVOD M/4=10134 |
| COST RPPECTIVENESS | Atmospheric emissions from the petroleum refining |
| Purification of fuel oils by centrifugal force | industry Cps-225040/5641 02 p0066 N74-18305 |
| U2 DUU34 A14-2U210 | [PB-225040/5GA] 02 p0066 R74-16303 |
| Cost efficiency of tungsten carbide-carbon fuel | Energy statistics: A supplement to the summary of national transportation statistics time |
| cells | series analysis of transported crude oils |
| 02 p0036 A74-24054 | [PB-225331/8GA] 02 p0070 #74-18633 |
| The large scale wind driven electrical generating | hir pollution aspects of emission sources: |
| station efficiency and economic factors [NASA-TT-F-15313] 02 p0046 N74-15750 | Petroleum refineries; a bibliography with |
| | abstracts |
| Batteries for storage of wind-generated energy 02 p0058 N74-16784 | [AP-110] 02 p0073 N74-19228 |
| Energy storage by compressed air using | Energy program, 1972 |
| windpowered pumps | f ma-TC-86121 02 pousu n/4-40013 |
| 02 p0058 H74-16/85 | Combustion and heat recovery of Air Porce waste |
| Economic considerations of utilizing small wind | petroleum oils and lubricants [AD-774563] 02 p0082 N74-21391 |
| generators | [20 , , , , , , , , , , , , , , , , , , |
| 02 p0058 N74-16789 | CRYOGENIC EQUIPMENT Cryogenic instrumentation at and above liquid |
| Introductory remarks international cooperation | hydrogen temperature - Present and future |
| in energy squices development | 01 p0003 174-14057 |
| UZ 60068 874-16565 | COMOCONIC PLOTO STORAGE |
| Environmental issues and institutional arrangements | Storage and transportation of synthetic fuels. A |
| economic and environmental aspects of energy | renart to the synthetic fuels Danes |
| policy 02 p0069 N74-18595 | [ORNL-TM-4307] 01 p0030 N74-15448 |
| magnetic suspension and guidance of high speed | CRYOGENIC FLUIDS |
| vehicles feasibility and cost effectiveness | Prospects for hydrogen as a fuel for |
| [CTS-2] 02 p0072 N74-18892 | transportation systems and for electrical power |
| Status of wind-energy conversion | generation [ORNL-TM-4305] 01 p0030 N74-15449 |
| r na sa - mm - r - 71523] U2 puu// N/4- 13/05 | COMPACENTA ENGERTS |
| | |
| clean fuels from blomass feasibility of | Heat operated cryogenic electrical generator |
| Clean fuels from biomass feasibility of converting plant systems to fuels | Heat operated cryogenic electrical generator |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TN-I-71538] 02 p0077 N74-19706 | Heat operated cryogenic electrical generator using liquid helium conversion |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST ESTINATES Environmental issues, an overview of energy | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS CRYOGENIC Engineering Conference, University of |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] COST RSTIBATES Environmental issues, an overview of energy source exploitation O2 p0069 N74-18597 COST REDUCTION COST REDUCTION | Heat operated cryogenic electrical generator —— using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 |
| Clean fuels from blomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RETINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings | Heat operated cryogenic electrical generator —— using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST ESTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 B74-16777 |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] COST RETIBATES Environmental issues, an overview of energy source exploitation O2 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings O2 p0036 A74-23464 Low-cost silicon solar cells for terrestrial | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 %74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 &74-14043 CUMREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 %74-16777 An electrical generator with a variable speed |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 | Heat operated cryogenic electrical generator —— using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ——— for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RETINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response enphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of Cds solar cells as a | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778 |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23454 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation Ol p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output Ol p0057 N74-16778 CYLINDRICAL SHELLS |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RETINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response enphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of Cds solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURERET CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation O2 p0057 874-16777 An electrical generator with a variable speed input: Constant frequency output O2 p0057 874-16778 CYLIEDRICAL SHELLS Solar concentrators of a novel design |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTIBATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CBYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23454 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURERET CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation O2 p0057 874-16777 An electrical generator with a variable speed input: Constant frequency output O2 p0057 874-16778 CYLIEDRICAL SHELLS Solar concentrators of a novel design |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation Ol p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output Ol p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EPI-74-21] Ol p0078 N74-19711 |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 | Heat operated cryogenic electrical generator —— using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system —— for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design —— reflecting wall light channel structure |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST ESTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of cds solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EFI-74-21] D D-2 SATELLITES |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EPI-74-21] D D-2 SATELLITES Current delivered by the solar array of the |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response enphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of Cds solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURRENT CONVENTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation O2 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output O2 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EFI-74-21] D-2 SATELLITES Current delivered by the solar array of the D2A-Tournesol satellite |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response enphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [28-R1-7871] 02 p0062 874-17666 | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation Ol p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output Ol p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EFI-74-21] D D-2 SATELLITES Current delivered by the solar array of the D2A-Tournesol satellite Ol p0039 A74-24928 |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response enphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of Cds solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [88-R1-7871] 02 p0062 N74-17666 COVERINGS The use of FEP Teflon in solar cell cover technology | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EFI-74-21] D D-2 SATELLITES Current delivered by the solar array of the D2A-Tournesol satellite 02 p0039 A74-24928 |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RETUMTES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response enphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction COSTS Determining the effects of gasoline price on use of metals in automobile manufacture (BB-RI-7871) | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST RSTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7871] 02 p0062 N74-17666 COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] 01 p0012 N74-10944 | Heat operated cryogenic electrical generator using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURERET CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EFI-74-21] D D-2 SATELLITES Current delivered by the solar array of the D2A-Tournesol satellite 02 p0039 A74-24928 DATA ACQUISITION Strip-mined watershed hydrologic data acquisition study remote infrared aerial photography |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction COSTS Determining the effects of gasoline price on use of metals in automobile manufacture {BB-RI-7871} COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] CRUDE OIL CRUDE OIL | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation O2 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output O2 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EFI-74-21] D-2 SATELLITES Current delivered by the solar array of the D2A-Tournesol satellite O2 p0039 A74-24928 DATA ACQUISITION Strip-mined watershed hydrologic data acquisition study remote infrared aerial photography [PB-223588/6GA] O1 p0025 N74-14105 |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction COSTS Determining the effects of gasoline price on use of metals in automobile manufacture (RB-RI-7871) COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] 01 p0012 N74-10944 CRUDE OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system for electric power supply regulation 02 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EFI-74-21] D-2 SATELLITES Current delivered by the solar array of the D2A-Tournesol satellite 02 p0039 A74-24928 DATA ACQUISITION Strip-mined watershed hydrologic data acquisition study remote infrared aerial photography [PB-223558/8GA] 01 p0025 N74-14105 DATA PROCESSING Threestigations using data in Alabama from ERTS-A |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST RSTINATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION 02 p0069 N74-18597 COST REDUCTION 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24901 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture (RB-RI-7871) 02 p0062 R74-17666 COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] 01 p0012 R74-10944 CNUDB OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook (AND-75H7031) | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [BM-RI-7871] COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] 02 p0012 N74-10944 CANDE OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] Substitute catalysts for platinum in automobile emission control devices and petroleum refining | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NFO-13303-1] 02 p0077 N74-19701 CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings 01 p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTIMATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION 02 p0069 N74-18597 COST REDUCTION 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24901 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7871] 02 p0062 N74-17666 COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TM-I-71485] 01 p0012 N74-10944 CRUDB OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] Substitute catalysts for platinum in automobile emission control devices and petroleum refining frag-22167/91 01 p0018 N74-11941 | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7871] COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] 01 p0012 N74-10944 CRUDE OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] 01 p0010 N74-1028 Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-222167/9] 01 p0018 N74-11941 Second iteration analysis of a fossil fuel-fired | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7871] COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] 01 p0012 N74-10944 CRUDE OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-222167/9] Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURERET CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTIMATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION 02 p0069 N74-18597 COST REDUCTION 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7871] 02 p0062 N74-17666 COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TM-I-71485] 01 p0012 N74-10944 CRUDE OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] 01 p0010 N74-10128 Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-222167/9] Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23454 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7871] COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] 01 p0012 N74-10944 CRUDE OIL Commercical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-222167/9] Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNI-NSF-EP-39] Process of the solar cell redeem Pederal Trade | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings Ol p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TH-I-71538] 02 p0077 N74-19706 COST ESTIBLES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7571] COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TH-I-71485] 01 p0012 N74-10944 CRUDE OIL Commercical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] 01 p0012 N74-10128 Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-222167/9] 01 p0018 N74-11941 Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORKL-NSF-EP-39] Energy crisis and small business Federal Trade Commission report on investigation of petroleum | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTIMATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24901 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7871] 02 p0062 R74-17666 COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TM-I-71485] 01 p0012 R74-10944 CRUDE OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-22167/9] 01 p0018 R74-11941 Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNL-NSF-EP-39] 01 p0019 N74-12577 Energy crisis and small business Federal Trade Commission report on investigation of petroleum industry | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURERET CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ———————————————————————————————————— |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTIMATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture (BB-RI-7B71) 02 p0062 N74-17666 COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TM-I-71485] 01 p0012 N74-10944 CRUDE OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-22167/9] 01 p0018 N74-11941 Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNL-NS-EP-39] 01 p0019 N74-12577 Energy crisis and small business Federal Trade Commission report on investigation of petroleum industry industry | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURREST CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system ——— for electric power supply regulation O2 p0057 B74-16777 An electrical generator with a variable speed input: Constant frequency output O2 p0057 B74-16778 CYLINDRICAL SHBLLS Solar concentrators of a novel design -—— reflecting wall light channel structure [EFI-74-21] D D-2 SATELLITES Current delivered by the solar array of the D2A-Tournesol satellite O2 p0039 A74-24928 DATA ACQUISITION Strip-mined watershed hydrologic data acquisition study -—— remote infrared aerial photography [PB-223558/8GA] O1 p0025 B74-14105 DATA PROCESSING Investigations using data in Alabama from ERTS-A ———— land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] DATA TRANSHISSION Translations on Eastern Europe Scientific Affairs, no. 383 -—— Romanian research on fuel conservation with thermoenergetic equipment and digital processing and transmission of information (JPRS-61101] DECONTARIMATION |
| Clean fuels from biomass feasibility of converting plant systems to fuels [NASA-TM-I-71538] 02 p0077 N74-19706 COST RSTIMATES Environmental issues, an overview of energy source exploitation 02 p0069 N74-18597 COST REDUCTION Airline airplanes for the eighties - A response emphasizing system efficiency and fuel savings 02 p0036 A74-23464 Low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24901 Does research in the field of aeronautics have a future emphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 COSTS Determining the effects of gasoline price on use of metals in automobile manufacture [RB-RI-7871] 02 p0062 R74-17666 COVERINGS The use of PEP Teflon in solar cell cover technology [NASA-TM-I-71485] 01 p0012 R74-10944 CRUDE OIL Commerical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-22167/9] 01 p0018 R74-11941 Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNL-NSF-EP-39] 01 p0019 N74-12577 Energy crisis and small business Federal Trade Commission report on investigation of petroleum industry | Heat operated cryogenic electrical generator— using liquid helium conversion [NASA-CASE-NPO-13303-1] CRYOGENICS Cryogenic Engineering Conference, University of Colorado, Boulder, Colo., August 9-11, 1972, Proceedings O1 p0003 A74-14043 CURRENT CONVERTERS (AC TO DC) Wind-powered asynchronous AC/DC/AC converter system —— for electric power supply regulation O2 p0057 N74-16777 An electrical generator with a variable speed input: Constant frequency output O2 p0057 N74-16778 CYLINDRICAL SHELLS Solar concentrators of a novel design reflecting wall light channel structure [EFI-74-21] D D-2 SATELLITES Current delivered by the solar array of the D2A-Tournesol satellite O2 p0039 A74-24928 DATA ACQUISITION Strip-mined watershed hydrologic data acquisition study remote infrared aerial photography [PB-223558/8GA] O1 p0025 N74-14105 DATA PROCESSING Investigations using data in Alabama from ERTS-A ——- land use, sineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] DATA TRANSHISSION Translations on Eastern Europe Scientific Affairs, no. 383 Romanian research on fuel conservation with thermoenergetic equipment and digital processing and transmission of information (JPRS-61701] 02 p0062 N74-17661 |

| DEBAND (ECOBONICS) | DRY PRICTION |
|---|--|
| Energy problems in air transportation options for demand reduction, efficiency increase and fuel alternatives | Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy |
| 02 p0033 A74-19479 Balancing supply and demand for energy in the United States conferences | DUCTED FARS 02 p0034 A74-20067 |
| 02 p0051 N74-16651 Future United States population, economic growth, and energy demands | Astafan - A new concept from Turboneca constant speed ducted turbofan engine 02 p0037 274-24697 |
| 02 p0051 N74-16652 Government, policies, national objectives, and the energy industries | DYNAMIC MODELS Dynamic model wind tunnel tests of a variable—diameter, telescoping-blade rotor |
| 02 p0051 N74-16653 Capital requirements of the energy industries | system (TRAC rotor) 02 p0061 H74-17764 |
| 02 p0052 #74-16654 Long run cost trends: Persian Gulf and United States | E |
| 02 p0052 N74-16655 Balancing the demand and supply of oil | EARTH RESOURCES Quantification of the luminescence intensity of natural materials |
| 02 p0052 N74-16656 Balancing the supply and demand for natural gas 02 p0052 N74-16657 | 01 p0005 A74-14892 The use of the pressurized balloon for detecting energy resources |
| Balancing the demand and supply of coal 02 p0052 N74-16658 | 02 00033 174-10073 |
| Energy in general technology for meeting world energy demand | Energy: Compiled bibliography and tables of world resources, consumption, and wastes [LEP-63/73] 01 p0010 N74-10391 |
| 02 p0068 K74-18587 Remarks capital requirements to meet energy shortages | The rederal Government and energy: R and D bistorical background |
| 02 p0068 N74-18590 Energy demand in Japan, 1975 to 1985 02 p0069 N74-18600 | Some interfaces in resource ntilization power source from earth crust heat |
| energy policy | [LA-UR-73-570] 01 p0022 N74-12696 Compendium of university forums of the National Commission on Materials Policy, May - June 1972. |
| DENHARK 02 p0070 N74-18603 | A background document. NCMP forum on Technological Innovation in the Production and |
| The importance of and progress in the utilization of wind power in Denmark | Otilization of Materials at Pennsylvania State University, on 19-21 June 1972 |
| [NASA-TT-F-15333] 02 p0047 p74-15758 DBSCENT TRAJECTORIES | [PB-223679/2GA] 01 n0025 v7u-14251 |
| The fuel crisis and the controller turbojet aircraft descent trajectories for fuel | Review of world energy supplies reserves and resources of fossil and fissile fuels [IGU/A-1-73] 01 p0026 w7#-14664 |
| consumption reduction 02 p0034 174-19726 | Nuclear fuels: Granium 01 p0026 N74-14666 |
| Air mobility fuel cell study desulfurization | Nuclear fuels: Thorium 01 p0028 N74-15257 |
| or area treat | 01 p0029 774-15258 |
| [AD-766757] 01 p0022 N74-12742 Bydrogen generator for hydrocarbon fueled fuel cells | Oil shale Of p0029 N74-15259 |
| [AD-767402] 01 p0024 N74-13766 DIRSEL ENGINES Thermal-oxidative stability of automotive diesel | Peat 01 p0029 874-15260 01 p0029 874-15261 |
| ruers | Compendium of University forums of the National Commission on Materials Policy, May - June 1972. |
| [AD-758146] 02 p0049 x74-15817 Bultifuel diesel engines | A background document: University Forum on National Materials Policy, Massachusetts |
| [AD-771198/9GA] 02 p0074 %74-19408 | Institute of Technology on 30 May - 2 June 1972 |
| Advantages of the diffuser-augmented wind turbine 02 p0057 N74-16775 | Pactors affecting the use of coal in present and |
| DIGITAL DATA Translations on Eastern Europe Scientific Affairs, no. 383 Romanian research on fuel | future energy makers background paper for Congressional investigation of earth resources and energy policies |
| CONSErvation with thermoenergetic agricultures and | The effect of fuel availability on future R and D |
| digital processing and transmission of information [JPRS-61101] 02 p0062 N74-17661 | Programs in power generation 01 n0031 N7m-15600 |
| Assessment of SO2 control alternatives and implementation patterns for the electric utility industry | Selected list of Bureau of Mines publications on petroleum and natural gas, 1961-1970 [BM-IC-8534] 01 p0032 N74-15691 |
| [PB-224119/8GA] 02 p0050 N74-16339 DIRECT POWER GENERATORS | Untlook for energy in the United States to 1985 |
| The synchronous EPD device 01 p0024 k74-13759 | Residential energy use: In econometric analysis [R-1297-MSF] 01 p0032 M74-15698 |
| MHD for power generation: The view of a chosen few [AD-760342] 01 p0025 N74-14408 | States O2 p0062 #74-16666 |
| Supersonic fuels from medium mile produced by the | Balancing the supply and demand for matural gas |
| thermal cracking of crude oil residues [DFVLR-SONDDR-301] 01 p0006 A74-18925 DOWN-CONVERTERS | 02 p0052 M74-16657 Balancing the demand and supply of other energy forms |
| An electrical generator with a variable speed input: Constant frequency output | 02 p0052 H74-16660 Environmental protection and long run supply of |
| 02 p0057 N74-16778 | Crude oil in the United States 02 p0052 M74-16661 |
| | fuel shortages, part 1 |
| | Fuel shortages, part 2 |

| Compact to conserve oil and gas | RFFLURETS Analyses of tars, char, gases, and water found in |
|--|---|
| 02 p0053 N/4~16666 | essiments from the synthane Drucess |
| Geothernal energy resources and research 02 p0053 N74-16670 | [BH-TPE-76] 02 p0049 174-15808 ELECTRIC BATTERIES |
| Natural gas supply in the decade of the seventies 02 p0074 N74-19586 | Possibilities of the thin solar battery applications for the terrestrial use units |
| Natural gas availability: Present and future 02 p0075 N74-19587 | UZ PUU30 R74-24512 |
| Reeting California's energy requirements, 1975-2000 02 p0076 N74-19629 | Blectric vehicle battery research and development [NASA-TH-X-71471] 01 p0012 874-10946 |
| PROPERTY AWAITED | Si-Au Schottky barrier buclear battery for |
| Nuclear eclectic power selective assessment of plant and reactor types | medical applications [TID-26342] 01 p0017 #74-11851 |
| 02 p0041 4/4-2/320 | Present state of the art in conductive coating |
| Energy research and development: An overview of our national effort | technology 01 p0006 A74-17654 |
| 01 p0016 N74-11788 | possibility of commutating thermoelectric |
| Mathematical methods of optimal planning development and use of energy systems | batteries with the aid of mercury amalyam |
| r.npgs=605467 01 p0022 N/4-12693 | [AD-756068] Experimental two-phase liquid-metal |
| wind utilization in remote regions: AD economic | ************************************** |
| study for comparison with diesel engines 02 p0058 N74-16790 | [AD-766588] 01 p0013 N74-10952 |
| The Oregon State University wind studies | ELECTRIC CURRENT Current delivered by the solar array of the |
| economic feasibility of windpowered generators 02 p0059 N74-16792 | h3x=#Anrhocal satellite |
| Economic basis for energy and resource use | 02 p0039 A/4-24928 |
| energy policy considering social impact | Measures for slowing growth in electricity |
| 02 p0068 k74-10300 | consumption Q2 p0054 N74-16676 |
| Context of the session theme, international issues | BLECTRIC DISCHARGES |
| 02 pougo a 74- 10304 | pependence of efficiency and specific characteristics of fuel cells on discharge |
| Remarks capital requirements to meet energy | conditions |
| shortages 02 p0068 N74-18590 | [AD-773264] 02 p0081 874-20704 |
| Symposium on Energy, Resources and the | ELECTRIC BEERGY STORAGE Chemical storage of hydrogen in Wi/H2 cells |
| Preironment. Session on Ethics and | 01 p0004 A74 14240 |
| Environmental Aspects of the Demand for and Use of Energy, volume 2 socioeconomic aspects of | Energy storage using high pressure electrolysis |
| energy resource development | and methods for reconversion in automobile |
| [#72=69=UNL=2=RRV=1] | fuel synthesis 02 p0057 M74-16780 |
| National energy policies for development of | Batteries for storage of wind-generated energy |
| low cost energy 02 p0069 x74-18592 | 02 p0058 N74-16784 Description of the energy source project |
| Symposium on Energy, Resources and the | Aclivering 1 medsion18 in 1 microsecopu |
| Environment. Volume 3: Session on Options for the Future and their Resources, Economic, and | noting high efficiency magnetic energy transfer |
| Preinonmental Effects | by mutually coupled inductances and fast response electromechanical circuit breakers. |
| [N72-69-VOL-3-REV-1] 02 p0069 N74-18598 | [LF-3] 02 p0061 N74-17454 |
| The technology and economics of commercial | RIRCTRIC GRURRATORS |
| airplane design. I | High voltage solar cell power generating system for regulated solar array development |
| 01 p0001 A/4-10144 | ratas paper 73~11051 01 p0002 A/4~14242 |
| The case for hydrogen fueled transport aircraft [AIAA PAPER 73-1323] 01 p0002 A74-11315 | wind energy: Its value and the choice of site for |
| The implications for air transportation of energy | exploitation [NASA-TT-F-15311] 02 p0045 N74-15734 |
| shortage 02 p0033 A74-19486 | The economy and practicality of large scale wind |
| New frontiers of civil aeronautics | generation stations (conclusion) |
| 02 p0041 A74-25352 | [NASA-TT-F-15348] 02 p0000 K/42-10002 Advanced electrical power generation and |
| Geothermal electricity production 02 p0042 A74-27321 | Aictribution concepts for military lacilities |
| The evolution and dynamics of mational goals in | [AD-765476] 02 p0061 N74-16819 The dc generators for utilizing wind power |
| the United States 02 p0053 N74-16666 | ruses_pr_p_15351] 02 p0063 N/4=1//89 |
| Mechanisms for achieving cleaner power, prices, | Solar energy systems for generating |
| regulations energy policy | electricity and producing-hydrogen fuels [M73-26] 02 p0064 N74-17795 |
| 02 p0069 W74-18596 Energy options technological developments for | Heat operated cryogenic electrical generator |
| new energy sources | using liquid helium conversion |
| 02 p0070 N74-18604 | [NASA-CASE-NPO-13303-1] 02 p007/ N/4-19701 Electric power generation system directly from |
| Energy consumption and gross national product in | laser power |
| the United States: An examination of a recent | [MASA-CASE-NPO-13308-1] 02 p0077 N74-19702 State-of-the-art and prospects of magnetoelectric |
| change in the relationship 01 p0030 M74-15681 | gachines for self-contained electrical supply |
| Wind-powered machines design, aerodynamic | systems and controllable electrical drivers |
| characteristics, and economics | [ab-773893] 02 p0081 M74-20703 Energy sources - Citations from the early DDC |
| [NASA-TT-F-15149] 02 p0045 N74-15742 Econometric models: Their application to the | collections |
| oconomic and energy sectors | [AD-773325] 02 p0081 N74-20705 |
| [CE-BIB-220] 02 p0062 N/4-1/600 | BLECTRIC BETWORKS Experimental determination of dynamic |
| REVIEW Of the windpower activities at the Brace | characteristics of hydrogen oxygen fuel cell |
| Posearch Institute | systems 01 p0009 N74-10074 |
| 02 p0058 \$74-16787 | Utilization of wind power with Ward-Leonard type |
| | circuit in inverted operation |
| | [NASA-TT-F-15352] 02 p0046 N74-15751 |

| ELECTRIC POTENTIAL | New wi |
|---|----------------------|
| Present state of the art in conductive coating technology | shor |
| 01 p0006 174-17654 | [NAS Small |
| BLECTRIC POWER | [NAS |
| Direct energy conversion by means of solar cells | Soviet |
| 02 p0040 A74-24937 Trapping of solar energy at Bamako with the aid of | repo |
| a silicon solar cell panel | [AD- |
| 02 p0041 A74-25481 | power Long I |
| Solar power generation and distribution | |
| 01 p0021 N74-12680 | Assess |
| Energy and the environment: Electric power [PB-223326/OGA] 01 p0028 N74-14791 | imple |
| Prospects for hydrogen as a fuel for | indu: [PB=1 |
| transportation systems and for electrical power | Experi |
| generation | (Stag |
| [ORML-TM-4305] 01 p0030 N74-15449 Residential energy use: An econometric analysis | (JPR |
| [R-1297-NSF] 01 p0032 N74-15698 | Introdu |
| Neuwerk windmill power generation plant | energ |
| [MASA-TT-F-15306] 02 p0045 #74-15740 | Experie |
| Economy and practical applications of large | gener |
| wind-driven power plants, part 1 [NASA-TT-F-15308] 02 p0045 N74-15741 | |
| [NASA-TT-F-15308] 02 p0045 N74-15741 Modeling of electric power demand growth | Boonomi |
| [PB-224045/5GA] 02 D0054 N74-16690 | dever |
| Optimal electrical energy growth strategies in an | NASA Le |
| era or environmental concern | (NASA |
| BLECTRIC POWER PLANTS 02 p0080 N74-20697 | High wi |
| Regional and global energy transfer via passive | evalu |
| power relay satellites | [NASA BLECTRIC P |
| 01 p0005 A74-16116 | Spaceci |
| Terrestrial utilization of CdS-Cu2S solar | stora |
| photocells in the south of France | |
| 02 p0038 A74-24915 Status of wind-energy conversion | Thermoe |
| 02 p0042 174-27772 | boset |
| 82-02 combustion powered steam-MHD central power | Power c |
| systems | Traff |
| O2 p0042 A74-27775 Closed cycle MMD for central station power with | _ |
| fossil or nuclear fuels | Power s |
| [AD-766500] 01 photo 874-16989 | non-m Proce |
| Development of quothermal reservoirs from | Sympo |
| over-pressured areas beneath the Gulf coastal | 24-26 |
| plain of Texas. A feasibility study of power production from overpressured reservoirs | |
| [AD-766855] 01 p0018 H74-12183 | Design |
| Liquid metal magnetohydrodynamics (AMNHA) | fuel- unit |
| technology transfer feasibility study. Volume | |
| 1: Summary [NASA=CR-136197] 01 00023 N74-13466 | Cost ef: |
| Liquid metal magnetohydrodynamics (LMMHD) | cells |
| technology transfer feasibility study. Volume | Results |
| 2: Appendixes | devel |
| [NASA-CR-136198] 01 p0023 N74-13467 | |
| High powered electrical power generation by wind motors | Low-cost |
| [NASA-TT-P-15303] 02 p0045 N74-15739 | applic |
| Wind power plants in Russia | Solar ge |
| [NASA-TT-F-15331] 02 p0045 N74-15743 | DOIGE 96 |
| Observations on modern wind-electric power plants | Spacebor |
| in Italy during post-war reconstruction [WASA-TI-F-15357] 02 p0045 W74-15745 | book |
| [MASA-TT-F-15357] 02 p0045 M74-15745 Importance and progress of wind power utilization | Manager |
| In Denmark | Magnetoi energy |
| [NASA-TT-F-15353] 02 p0045 N74-15746 | [AD-76 |
| method of calculation of annual overall efficiency of modern wind-power plants | Electric |
| INASA-TT-F-153101 02 DOOM6 V70-15740 | (NASA- |
| Problems in the electrical equipment of wind power | A novel |
| prants | for po (BMPT~ |
| [NASA-TT-F-15312] 02 p0046 N74-15749 | Develop |
| The large scale wind driven electrical generating | and so |
| station efficiency and economic factors [NASA-TT-F-15313] 02 p0046 x74-15750 | demons |
| Progress in the utilization of wind nover | AD-76 |
| [##38-TT-F-13346] | Alternat [CONF- |
| importance and progress of wind power utilization | Parallel |
| in Denmark [NASA-TT-F-15349] 02 p0046 N74-15754 | an inf |
| Medium-capacity air motor milet mint with | by a H |
| nyutautic energy accumulation by pumping | [NASA- Wind ene |
| [BASA TITE 10299] AND HOUSE NOW AND TRACE | (NASA- |
| Prospects for the utilization of wind energy in Czechoslovakia | Wind pow |
| [WASA-TT-Y-15305] 02 p0048 N74-15766 | for re |
| | |

```
nd power station --- used during fuel
tage in World War 2
                                      02 p0048 N74-15767
wind-electrical installations for export

1-TT-F-15350] 02 p0048 N74-15770

geothermal electric power engineering,
754947]
754947] _{\odot} 02 p0048 N74-15776 ange trends in the character of electric
r systems
                                     02 p0049 N74-15908
ment of SO2 control alternatives and
ementation patterns for the electric utility
stry
224119/8GA]
                                     02 p0050 N74-16339
mental research on model MHD generator U-02
ge 2), Scientific and Technical Report 17/73
S-60972] 02 p0050 874-16424
action to Voigt's wind power plant ---
ly conversion efficiency
                                     02 p0055 N74-16762
ence with Jacobs wind-driven electric
cating plant, 1931 - 1957
                                     02 p0058 N74-16786
c considerations of utilizing small wind
                                     02 p0058 N74-16789
wis H2-O2 MHD program
-TH-X-71520]
                                    02 p0076 N74-19697
nd power plants --- design and performance
ation
-TT-F- 15444 1
                                     02 p0077 N74-19709
OWER SUPPLIÉS
aft electrical power --- solar cells and
ge batteries
                                    01 p0002 A74-12201
electric generators --- radio relay station
 supply application
                                    01 p0002 X74-13448
onditioning system for PAA Air Route
ic Control Centers
                                    01 p0004 A74-14133
ources 4: Research and development in
sechanical electrical power sources;
edings of the Eighth International
ssium, Brighton, Sussex, England, September
, 1972
                                    02 p0034 A74-20627
of high-temperature solid-electrolyte cell batteries for maximum power output per
volume
                                    02 p0036 A74-22355
ficiency of tungsten carbide-carbon fuel
                                    02 p0036 A74-24054
and future prospects on photovoltaic power
opment in France
                                    02 p0037 A74-24904
t silicon solar cells for terrestrial
cations
                                    02 p0038 A74-24909
enerators for sounding balloons
02 p0040 A74-24940 rne sources of electric power --- Russian
                                    02 p0040 A74-24986
hydrodynamic method of obtaining electrical y (collected articles)
55933] 01 p0011 H74-10681
c vehicle battery research and development
-TM-X-71471] 01 p0012 H74-10946
method of cooling semiconductor devices
wer electronics
FBT-02]
                                   01 p0015 N74-11739
ent of design criteria, cost estimates,
hedules for an HHD high performance
tration experiment
6232]
                                   01 p0017 ¥74-11852
ive energy sources: A research challenge
730560-1] 01 p0024 874-14097
l operation of a synchronous generator and
initely high-powered network when driven
connef-Gross wind turbine
TT-F-15302]
                                   02 p0047 N74-15762
rgy conversion systems
TH-Y-69786]

O2 p0055 H74-10

Per demonstration and siting problems ---

charging electrically driven automobiles
                                   02 p0055 £74-16757
                                   02 p0056 N74-16765
```

| An introduction to the Princeton sailwing windmill 02 p0056 N74-16769 | BIRCTROLYTES Experimental determination of dynamic characteristics of hydrogen oxygen fuel cell |
|---|---|
| wind-powered asynchronous AC/DC/AC converter system | systems 01 p0009 N74~10074 |
| An electrical generator with a variable speed | Electrolyte for hydrocarbon air fuel cells 01 p0010 N74-10085 |
| input: Constant frequency output 02 p0057 N74-16778 | Properties of solid polymer electrolyte fluorocarbon film used in hydrogen/oxygen |
| Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 R74-16781 | fuel cells [NASI-TH-D-7482] 01 p0011 874-70547 |
| Wind power systems for individual applications electric power supplies for homes 02 p0058 N74-16788 | Research on electrochemical energy conversion systems electrolytes for hydrocarbon-air fuel cells (Ap. 262.291 01 p0013 W74-10951 |
| Wind utilization in remote regions: An economic study for comparison with diesel engines 02 p0058 N74-16790 | BLECTROLITIC CELLS BLECTROLITIC CELLS Bridge of highertopperature solid-electrolyte |
| French wind deperator systems as auxiliary | fuel-cell batteries for maximum power output por |
| power sources for electrical networks 02 p0059 w74-16793 | 02 p0036 474-22355 Status and applicability of solid polymer |
| NSF presentation summary on energy conversion research program | electrolyte technology to electrolytic alarages |
| 02 p0059 N74-16798 Using the energy of the wind for electrification 03 p0069 N74-16801 | UX pound mickel-zinc batterles |
| [NASA-TT-F-15307] 02 power generation and | [AD-772944] 02 poo/2 a/+ 0/3/ |
| distribution concepts for military lacinities (AD-7654761 02 p0061 N74-16819 | ELECTROMECHABICAL DEVICES Biffect of dry friction on the response to a symmetric harmonic signal of an energy converter |
| Electricity: The conversion industry [NP-19837] 02 p0072 N74-18730 | producing mechanical energy 02 p0034 174-20067 |
| Concentration by competing raw fuel industries in the energy market and its impact on small | Description of the energy source project delivering 1 megajoule in 1 microsecond |
| business. Volume 2: Tennessee Valley area [H-RBPT-92-1313] 02 p0075 N74-19605 | noting high efficiency magnetic energy transfer by mutually coupled inductances and fast |
| ELECTRIC POWER TRANSHISSION POWER SOURCE quality consequence and cures of | response electromechanical circuit breakers |
| source deficiencies in quality of ac electric | [LF-3] ELECTRON BHISSION Recent developments in the field of thermionic |
| 01 p0019 R74-12635 | nover conversion and its possible ellects of |
| Description of the energy source project delivering 1 megajoule in 1 microsecond | power supply systems in space and on earth [DGLR PAPER 73-092] 01 p0005 174-17195 |
| noting high efficiency magnetic energy transfer by mutually coupled inductances and fast | ELECTRON HICROSCOPES Hass transfer in fuel cells electron |
| response electromechanical circuit breakers | microscopy of components, thermal decomposition of Teflon, water transport, and surface tension |
| [LF-3] ELECTRICAL PROPERTIES Thermoelectric generators radio relay station | of KOH solutions [MASA-CR-134519] 01 p0009 874-10075 |
| power supply application 01 p0002 174-13448 | EMPLOYMENT Energy in the near term prediction analysis |
| Experimental determination of dynamic characteristics of hydrogen oxygen fuel cell | techniques for energy consumption and employment 02 p0079 N74-20613 |
| systems 01 p0009 N74-10074 | ENERGY BUDGETS The energy dilemma and its impact on air transportation |
| ELECTRICAL RESISTIVITY KIVA-I MHD generator modifications and tests | [MASA-CR-135993] 01 p0015 N/4-11/4: |
| [AD-770063] 02 p0060 N74-16815 | The air transportation/energy system 01 p0016 #74-1174 |
| Solar ponds extended | Bnergy conservation and air transportation 01 p0016 N74-1174 |
| Electric energy requirements for environmental | Conclusions and recommendations for problems in energy situation, air transportation, and hydrogen fuel |
| [CONF-730205-4] 07 pouz/ 674-14695 | 01 p0016 N74-11/4 |
| [NASA-TT-P-15513] 02 p0081 N74-20701 | EMERGY COMSUMPTION Onboard onergy sources and propulsion systems for balloons |
| Investigation of silicon photoelectric cells as | [ONERA, TP NO. 1311] 02 p0037 A74-2431 Solar energy utilization by physical methods |
| precision photodetectors electro-optical properties of silicon solar cells [NRC-TT-1686] 01 p0010 N74-10199 | including hydropower, windpower, direct solar heating and electric power 02 p0042 A74-2732 |
| ELECTROCHERICAL CELLS Charical storage of hydrogen in Ni/H2 cells | Econometric models: Their application to the economic and energy sectors |
| or pools are 14240 | [CE-BIB-220] 02 p0062 H74-1766 Energy in general technology for meeting world |
| 02 p0035 A74-20630 Nickel-zinc cells with non-sintered electrodes 02 p0035 A74-20631 | energy demand 02 p0068 N74-1858 |
| The dc generators for utilizing wind power [KASA-TT-P-15351] 02 p0063 N74-17789 | Issues involved in developing an environmental ethi socioeconomic factors in energy supply and |
| ELECTRODES Nickel-zinc cells with non-sintered electrodes 02 p0035 A74-20631 | demand 02 p0069 H74-1859 Man versus His Institutions goals of rational |
| PLECTROHYDHODYNAMICS On the theory of alternating-current | energy policy 02 p0070 N74-1860 Transportation energy use in the United States: A |
| electrofluiddynamic converters 01 p0007 x74-18988 | statistical history, 1955 - 1971 [R-1391-NSP] 02 p0070 N74-1860 |
| The synchronous EFD device 01 p0024 N74-13759 | |

| Natural resources development and policies, | Strategy for solar heating and cooling in buildings |
|---|--|
| including environmental considerations. Addendum: Changing patterns in the world energy situation | 01 p0021 N74-12685 an inventory of energy research, volume 1 |
| [E/C-7/2/ADD.1] 02 p0070 #74-18609 Energy, resources and the cavironment: A set of | Energy rosearch and devolopment: A selected |
| presentations | reading list [ORNL-BIS-73-65-RBV-1] 01 p0022 #74-12695 |
| [873-61] 02 p0075 874-19615 US transportation: Some energy and environmental | ISOTOPO Kilovatt program [OBNL-TR-4243] O1 monos x74-14977 |
| Considerations [H72-164] 02 p0075 H74-19624 | Bhergy conservation through effective utilization |
| Consumption of energy in New York State: 1972 (with estimates for 1973) | Sational Fuels and Energy Conservation Act of 1973 |
| [ORE-19] 02 p0079 N74-20614 | Storage and transportation of synthetic fuels. 1 |
| Evergy in the near term production analysis techniques for energy consumption and employment | report to the synthetic fuels panel |
| 02 p0079 #74-20517 Bnergy alternatives for California: The current | The energy situation in the community, situation 1972, forecasts 1973 |
| crisis. it The impact of Arab cil export policies on the California energy system | 01 n0030 N74-15679 |
| [P-5146] 02 p0080 N74-20621 Coping with the fuel shortage: A guide for Los | Bnergy resources of the United States based on geological survey of all available sources of |
| Augeles residents | onergy [CIRC-650] 01 p0031 H74-15685 |
| Energy research and development: A selected | The effect of fuel availability on future R and D programs in power generation |
| reading list [ORNI-EIS-73-65] 02 p0080 p74-20627 | Shergy, resources and the environment |
| Patterns of energy consumption in the United States 02 p0080 874-20699 | [E72-180-REV-1] 01 p0032 x74-15695 Outlook for energy in the United States to 1985 |
| SEERCY CONVERSION Thermionic energy conversion. Volume I - Processes | 01 n0032 u7u=16607 |
| and devices Book 01 p0004 174-14327 | An oconomic evaluation of MND-steam powerplants employing coal gasification |
| Evolution of studies in the field of gas lasers | [BE-RI-7796] 02 p0051 #74-16620 Balancing the demand and supply of coal |
| Recent developments in the field of thermionic | 02 p0052 274-16658 tind machines aerodynamics of sailving vehicles |
| power conversion and its possible effects on power supply systems in space and on earth | use presentation summary on energy conversion |
| [DGLE PAPER 73-092] 01 p0005 174-17195 Energy supply and energy transformers in | research program |
| satellites and spacecraft | Sconomic comparison of two solar/hydrogen concepts |
| 01 p0006 174-18189 Prospects of energy conversion and storage derived from space systems technology | [SLA-73-900] 02 p0060 N74-16810 Direct energy conversion methods [AD-770000] 02 p0061 N74-16816 |
| 02 p0033 A74-19485 The motion of a conducting piston in a channel with variable inductance | Ninetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 N74-17190 |
| 02 p0036 174-22279 Direct energy conversion by means of solar cells | MSF-RANN energy abstracts: A monthly abstract journal of energy research |
| 02 p0040 A74-24937 Turbo-actuators turn flow into mechanical output | [ORNL-BIS-73-52-VOL-1-NO-9] 02 p0062 N74-17680 New sources of power: Solar energy |
| power conversion for missile control or pneumatic systems | 02 p0063 N74-17790 Investigation in energy transfer and energy |
| O2 p0041 A74-27136 Solar energy to meet the nation's energy needs | conversion for advanced power and propulsion systems |
| [NASA-TH-X-68290] 01 p0011 N74-10750 Solar energy for the terrestrial generation of | [AD=771581] 02 n0067 974_30437 |
| electricity | RECYCLING Solid waste for utility fuel and recovery of other resources identification |
| 50lar-energy for heating and cooling | or mechanical problems in materials handling |
| O1 p0036 N74-11787 Energy demand and its effect on the ennvironment | Electricity: The conversion industry |
| [P-5048] The U.S. energy problem. Volume 2: Appendices, | Energy recovery from waster collid waste |
| part B to include development of alternate power sources to reduce fossil fuel consumption | supplementary fuel in power plant boilers [SW-36D.II] 02 p0076 N74-19699 |
| [ED - 44 (D Y) | Reat operated cryogenic electrical generator using liquid helium conversion |
| An assessment of solar energy as a national energy resource | [NASA-CASE-NPO-13303-1] 02 p0077 H74-19701 Electric power generation system directly from |
| [NASA-CR-136191] 01 p0019 B74-12462 Energy facts | raser power |
| Energy consumption: Past, present, future | BURBEY CONVERSION REFICIENCY |
| Energy and resource consumption | Heating of a substance by an arc plasma 01 p0001 A74-10463 |
| Energy resources 01 p0020 874-12676 | Qualitative analysis of the efficiency of MHD energy conversion |
| O1 p0020 k74-12677 Components for solar energy | 01 p0003 A74~13944 Vitreous oxide antireflection films in |
| O1 p0020 N74-12678 Solar power generation and distribution | niga-efficiency solar cells |
| National energy policy | On the theory of alternating-current electrofluiddynamic converters |
| Solar energy potential 01 p0021 N74-12681 | O1 p0007 174-18989 Loss mechanisms in an MHD generator Rock on |
| O1 p0021 #74-12682 Impacts of solar energy utilization | argon plasma nonequilibrium Paraday generator efficiency |
| 01 p0021 N74-12683 | 02 p0033 A74-19455 Schottky-barrier solar-cell calculations |
| | 02 p0035 a74-21028 |
| | |

Solar cell development in the Federal Republic of 02 p0037 A74-24903 The optimization of silicon photocell operated in conjunction with solar radiation concentrators 02 00037 174-24906 Status of wind-energy conversion 02 p0042 A74-27772 Research on electrochesical energy conversion systems --- electrolytes for hydrocarbon-air fuel cells [AD-766329] [Ap-766329] 01 p0013 H74-10951 Solar heat utilization in residential heating avet ens 01 p0019 W74-12664 Hethod of calculation of annual overall efficiency of modern wind-power plants [NASI-TT-F-15310] 02 p0046 974-15748 Parallel operation of a synchronous generator and an infinitely high-powered network when driven by a Honnef-Gross wind turbine l NASA-TT-F-15302]

Antenna towers as wind tower generation plants
[NASA-TT-F-15304]

Reasures for slowing growth in electricity 02 p0047 ¥74-15762 consumption 02 m0054 N74-16676 Wind energy conversion systems 02 p0055 p74-1 [NRSH-TM-169786] 02 p0055 p74-1 Energy storage using high pressure electrolysis and methods for reconversion --- in automobile 02 p0055 #74-16757 feel synthesis 02 p0057 N74-16780 Status and applicability of solid polymer electrolyte technology to electrolytic hydrogen and oxygen production 02 p0058 N74-16782 Experience with Jacobs wind-driven electric generating plant, 1931 - 1957 Economic considerations of utilizing small wind generators 02 p0058 #74-16789 02 p0058 W74-1676
Technical feasibility study for the development of
a large capacity wind powered electrical
generating system --- by using vertical airfoil
motion along track system 02 p0059 N74-16791 MASA presentation --- wind energy conversion systems planning Energy options for the future --- nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 Investigation of energy conversion in rapidly cycling fuel cells, 1. A system for studying the surface diffusion of hydrogen on metals, 2 02 p0071 H74-18720 Status of wind-energy conversion 02 p0077 N74-19705 [NASA-TM-X-71523] BERRGY DISTRIBUTION Long range trends in the character of electric power systems 02 p0049 N74-15908 Issues involved in developing an environmental ethic demand 02 b0069 N74-18594 ENERGY POLICY
The use of the pressurized balloon for detecting energy resources 02 p0033 A74-19473 Energy problems in air transportation --- options for demand reduction, efficiency increase and fuel alternatives 02 p0033 174-19479 The implications for air transportation of energy shortage 02 p0033 A74-19486 The fuel crisis and the controller --- turbojet aircraft descent trajectories for fuel consumption reduction 02 p0034 A74-19726

The airship can meet the energy challenge 02 p0034 A74-20166

02 p0040 A74-24939

Investigation of photovoltaic applications --- for

solar energy conversion

Conclusions and recommendations of the United States Solar Energy Panel 02 00040 174-24941 Report to the president and to the council on environmental quality Proceedings of the Solar Heating and Cooling for Buildings Workshop. Part 1: Technical sessions, Harch 21 and 22 01 m0025 w74-44000 Energy. [PB-223536/4Gk] 01 p0025 #74-14499

Banergy: An energy management model of the United

States for the prediction of energy demand,
resource consumption, environmental effects, the
assessment of new technology. resource consumption, environmental effe assessment of new technology, and energy resource alternatives 01 p0026 N74-14665 Review of world energy supplies -- reserves and resources of fossil and fissile fuels [IGU/1-1-73] 01 p0026 N74-14 resources or rossil and rissile ruess [IGU/A-1-73]
2nergy policy research and the State of Florida [P-5078]
01 p0026 H74-14684 rederal agency energy conservation 01 p0026 N74-14686 Federal energy conservation --- Federal policy on conservation and reduction of energy requirements 01 p0026 H74-14687 Energy conservation through effective utilization [WBSIR-73-102] 01 p0027 H74-10 PP1 pollution regulations and fuel shortage: The utilization 01 p0027 N74-14688 impact on wass transit 01 p0027 E74-14690 Energy crisis and small business --- Pederal Trade Commission report on investigation of petroleum industry 01 p0027 N74-14691 Energy research and development, 2 01 p0027 #74-14692 National Fuels and Energy Conservation Act of 1973 [S-REPT-93-526] 01 p0027 874-14693 Electric energy requirements for environmental protection fcomp-730205-41 01 p0027 #74-14695 [CONF-730205-4] 01 p0027 #74-14695
Energy and the environment: Electric power
[PB-223326/06A] 01 p0028 #74-14791
Energy situation and nuclear power --- global
applications of nuclear reactors
[NP-19838] 01 p0029 #74-15391
Storage and transportation of synthetic fuels. A
report to the synthetic fuels panel
[CNNI-TH-4307]
Prospects for hydrogen as a fuel for Prospects for hydrogen as a fuel for transportation systems and for electrical power σemeration 01 p0030 N74-15449 FORNL-TH-43051 Time factors in slowing down the rate of growth of demand for primary energy in the United States 01 p0030 N74-15667 FEOL-71 The energy situation in the community, situation 1972, forecasts 1973 01. p0030 174-15679 Individual action for energy conservation On p0030 874-15680

Bnergy consumption and gross national product in the United States: An examination of a recent change in the relationship 01 p0030 N74-15681 Conservation and efficient use of energy, part 1 01 p0030 w74-15682 Factors affecting the use of coal in present and future energy makers --- background paper for Congressional investigation of earth resources and energy policies 01 p0031 N74-15684.
Energy resources of the United States --- based on
geological survey of all available sources of energy [CIRC-650] 01 n0031 N74-15685 Legislative authority of Pederal agencies with respect to fuels and energy: A staff analysis 01 p0031 x74-15686 The President's energy message and S. 1570 01 p0031 N74-15687 Summary of the energy conservation and development recommendations contained in the final report of the National Commission on Materials Policy, June 1973: A background paper 01 p0031 N74-15688 gnergy conservation, part 1 01 p0031 N74-15690

| Energy, resources and the environment |
|--|
| [M72-180-REV-1] 01 p0032 N74-15695 Outlook for energy in the United States to 1985 |
| Outlook for energy in the United States to 1985 01 p0032 N74-15697 |
| Energy conservation with solar climate control solar heating and cooling of buildings |
| 02 n0050 N74=16513 |
| A new view of solar energy as comprehensive national energy policy |
| 02 50050 870 45546 |
| A bibliography of non-technical literature on energy 02 p0051 N74-16641 |
| A DIDIIOGRAPHY Of Congregional mukidations |
| energy from the 89th Congress to 1 July 1971 02 p0051 N74-16642 |
| parametra subbit and demand for energy in the |
| United States conferences 02 p0051 N74-16651 |
| ruture United States population, economic growth. |
| and energy demands 02 p0051 874-16652 |
| Government, Policies, national objectives, and the |
| energy industries 02 p0051 N74-16653 |
| capital requirements of the energy industries |
| 02 p0052 N74-16654 Long run cost trends: Persian Gulf and United |
| States |
| 02 p0052 N74-16655 Balancing the demand and supply of oil |
| 02 00062 374 46666 |
| barancing the supply and demand for natural gas |
| 02 p0052 N74-16657 Balancing the demand and supply of coal |
| 02 p0052 N74-16658 |
| Balancing the demand and supply of electricity and nuclear fuels |
| Balancing the demand and supply of other energy |
| forms the demand and supply of other energy |
| Revironmental protection and 1 |
| Environmental protection and long run supply of crude oil in the United States |
| 02 p0052 N74-16661 Energy emergency legislation, part 1 |
| 02 n0052 N70-16662 |
| ruer smortages, part ; |
| Puel shortages, part 2 02 p0053 N74-16664 |
| The evolution and dynamics of national goals in |
| the United States |
| 02 p0053 N74-16666 A review of energy issues and the 91st Congress |
| 02 m0050 m70.44447 |
| A2 wAGE2 now accept |
| 02 p0053 N74-16668 Federal Energy Organization: A staff analysis |
| 02 p0053 N74-16669 Geothermal energy resources and research |
| 00 -0003 200 444-4 |
| demand of the manufacturing coctor in colin |
| |
| state of California |
| [P-5107] |
| The Soviet Union, the Middle East, and the evolving world energy situation soviet |
| INTIGERCE |
| [P-5109] 02 p0054 N74~16675 Energy conservation in public and commercial |
| Derigs |
| [P-5093] California's electricity quandary. 3: Slowing |
| 3100th 1016 |
| [R-1116-NSF/CS1] 02 p0054 N74-16680 Geothermal energy |
| 02 |
| [AD-761576] |
| The US energy crisis, the multiplication of public not |
| corporations and their relationship to Us foreign policy in the Middle East |
| 1AV-70V0D81 55 555 |
| and there is a wind, there is a way |
| 02 p0055 N74~16763 |
| |

```
H2-02 combustion powered steam-MHD central power
      systems
   [NASA-TH-X-71512] 02 p0060 N74-1
Hydrogen economy --- based on hydrogen as energy
                                              02 p0060 N74-16800
      SOUTCE
      [BNL-18224]
                                              02 p0060 N74-16809
   Solar energy evaluation group report
[ANL-8045] 02
                                              02 p0061 N74-17527
     review of energy policy activities of the 92d
     Condress
   NSF-RANN energy abstracts: A monthly abstract
     journal of energy research
[ORNL-EIS-73-52-VOL-1-NO-9]
                                             02 p0062 N74-17680
  Peasibility study of a satellite solar power station [NASA-CR-2357] 02 p0063 N74-17784
  [NASA-CR-235/]
New sources of power: Solar energy 02 p0063 N74-17790
   Solar energy systems --- for generating
     electricity and producing-hydrogen fuels
     [#73-26]
                                             02 p0064 N74-17795
  Energy conservation strategies
[PB-224493/7GA] 02
Petroleum: A prediction made in 1950
                                             02 p0064 N74-17800
    [ 2-5135]
                                             02 p0065 N74-18194
  The hydrogen IC engine: Its origins and future in
    the emerging energy-transportation-environment
    [ REPT-729212 ]
  Investigation in energy transfer and energy conversion for advanced power and propulsion
    systems.
    [AD-771581]
                                            02 p0067 N74-18417
  Computer simulation of world dynamics and implications for policy decisions --- social
    issues in energy policies
                                            02 p0068 N74-18585
 Economic basis for energy and resource use -
energy policy considering social impact
                                            02 p0068 N74-18586
 The international aspects of importing natural gas
--- economics of shipping liquefied natural gas
                                            02 p0068 N74-18588
 Remarks --- capital requirements to meet energy
    shortages
                                            02 p0068 N74-18590
 Symposium on Energy, Resources and the Environment. Session on Ethics and Environmental Aspects of the Demand for and Use
   of Energy, volume 2 --- socioeconomic aspects of
   energy resource development [872-69-VOL-2-REV-1]
                                           02 p0068 N74-18591
 National energy policies --- for development of
   low cost energy
                                           02 p0069 N74-18592
 An energy ethic --- socioeconomic ethics of energy source development
                                           02 p0069 x74-18593
 Issues involved in developing an environmental ethic
   --- socioeconomic factors in energy supply and
                                           02 p0069 x74-18594
 Environmental issues and institutional arrangements
   --- economic and environmental aspects of energy
   policy
                                           02 p0069 N74-18595
Mechanisms for achieving cleaner power, prices,
   regulations --- energy policy
                                           02 p0069 N74-18596
Energy demand in Japan, 1975 to 1985
                                          02 p0069 N74-18600
Major RSD programs to meet the energy crisis --
  solar energy, nuclear fusion, and hydrogen-based power supplies
                                          02 p0069 N74-18602
Man versus His Institutions --- goals of rational
  energy policy
                                          02 p0070 N74-18603
Energy-related research and development
                                          02 p0070 N74-18605
The potential for energy conservation in
  commercial air transport
  [R-1360-NSF]
[R-1360-NSF] 02 p0070 N74-18606
Natural resources development and policies,
including environmental considerations.
  Addendum:
               Changing patterns in the world energy
  situation
  [B/C.7/2/ADD.1]
                                          02 p0070 N74-18609
```

| Energy conservation and S. 2176, part | 2 |
|---|----------------------------|
| 02 p | 0070 N74-18622 |
| Quantitative energy studies and models | : A state |
| of the art review 02 p | 0070 N74-18623 |
| Proceedings: Energy Resource Conferen | ce (2nd) |
| [PB-224750/OGA] 02 p | 0071 N74-18634 |
| Energy conversion bibliography [1D-771750] 02 p | 0071 N74-18638 |
| Comparative evaluation of solar, fissi | on fusion, |
| and fossil energy resources. Part | : Solar |
| energy [KASA-CR-137242] 02 p | 0071 N74-18721 |
| Thermal cycle and efficency of a versa | tile power |
| unit with a magnetohydrodynamic gene | erator and |
| thermoelectric generator [JPRS-61359] 02 p | 0071 N74-18723 |
| Technical options for energy conservat | ion in |
| buildings | 0071 N74-18724 |
| [NBS-TN-789] 02 And what if we were to switch to hydro | gen? use |
| And what if we were to switch to hydro of hydrogen derived from water as a | fuel source |
| [L1-TR-73-40] UZ Electricity: The conversion industry | 0072 N74-18729 |
| [NP-19837] U4] | 0072 N74-18730 |
| liquid hydrogen as a fuel for motor ve | ehicles; a |
| comparison with other systems | p0074 N74-19391 |
| H.R. 11864: Solar Heating and Cooling | - 9 |
| Demonstration Act of 1974. Backgro | und and |
| legislative history | p0075 N74-19604 |
| Concentration by competing raw fuel in | ndustries in |
| the energy market and its impact on | RMSTT |
| business. Volume 2: Tennessee Val. [H-REPT-92-1313] 02 | p0075 N74-19605 |
| Atomic Energy Commission 1 December 1 | 973 report on |
| energy research and development | |
| Egergy resources of the United States | p0075 N74-19606 |
| 1 CTRC=6501 U2 | p0075 N74-19614 |
| Energy, resources and the environment | : A set of |
| presentations [#73-61] 02 | p0075 N74~19615 |
| Council on Energy Policy | _ |
| 02 | p0075 N74-19617 |
| The gasoline shortage: A national pe | DUU/5 N/4-19618 |
| US transportation: Some energy and e | nvironmental |
| considerations | p0075 N74-19624 |
| Frency recovery from waste: Solid wa | ste as |
| subblementary ruet in hower branc's | OTTERS |
| [SW-36D.II] Q2 Analysis of the possible use of wind | DUU/D 31/4-17077 |
| Sueden part 1: Wind power resour | ces, theory |
| of wind-power machines, preliminary | model 1 and |
| 10 MW wind generators [WASA-TT-F-15441] 02 | p0077 N74-19708 |
| Report of the Wind Power Committee of | 1962 |
| f wa <a -="" m="" m<="" td=""><td>PUU/8 N/4-19/10</td> | PUU/8 N/4-19/10 |
| Final environmental statement for the leasing program. Volume 2: Leasing | ig of |
| woothermal resources in three Calli | ornia areas |
| | |
| Final environmental statement for the leasing program. Volume 3: Propos | sed geothermal |
| leasing and operating regulations | |
| 02 Pinal environmental statement for the | p0078 N74-19976 |
| located program. Volume 4: CODMet | its on drait |
| impact statement and Droposed requ. | Lations . |
| 02 National energy policy for meeting U: | DUU/8 N/4-199// |
| modul regents | |
| - 02 | p0079 N74-20613 |
| Final environmental statement for the leasing program. Volume 1: Promu | e geothermal lostion of |
| leasing and operating regulations | |
| 02 | p0079 N74-20616 |
| Buergy in the near term prediction techniques for energy consumption | on analysis |
| 02 | p0079 N74-20617 |
| Energy program, 1972 | - |
| [BH-IC-8612] 02 Energy alternatives for California: | p0080 #74-20619 |
| inin 1. The impact of Arab Ol | T exhole |
| policies on the California energy | system |
| [P-5146] 02 | p0080 N74-20621 |
| | |

```
Coping with the fuel shortage: A guide for Los
     Angeles residents
  Anyeles residents 02 p0080 N74-20622 [P-5154] Dpproach to the holistic analysis of the system
     man-energy-environment
                                             02 p0080 N74-20626
     [JUL-982-RG]
   Optimal electrical energy growth strategies in an
     era of environmental concern
                                             02 p0080 N74-20697
   Energy sources - Citations from the early DDC
     collections
   collections
[AD-773325]
02 p0081 N74-20705
Background material for the Energy Policy
      Workshop, 11-12 January 1973 --- conferences
                                             02 p0082 N74-21619
     [ 873-12]
   Conservation of energy
                                             02 p0082 N74-21620
   The gasoline and fuel oil shortage
     congressional hearing to determine causes and corrective actions for fuel shortage problem | fgp0-99-740 | 02 p0082 N74-21624
      FGP0-99-7401
RMERCY REQUIREMENTS
   Solar power for our nation
                                             01 p0004 A74-14465
   Nuclear eclectic power --- selective assessment of
      plant and reactor types
                                              02 p0041 A74-27320
   Geothermal electricity production
                                              02 p0042 A74-27321
   Engine sensory requirements for energy management 02 p0043 174-28311
    Energy: Compiled bibliography and tables of world
     resources, consumption, and wastes [LRP-63/73] 01
                                              01 p0010 N74-10391
   Energy research and development and space technology
01 p0012 N74~10892
                                     Volume 1: Summary ---
    A hydrogen energy carrier.
      for meeting energy requirements [NASA-CR-134175]
                                              01 p0014 N74-11727
    A hydrogen energy carrier. Volume 2: Systems
      analysis
                                              01 p0014 N74-11728
    [NASA-CR-134176] 01 p0014 N7
Summary of systems analysis of hydrogen as an
      energy carrier in the United States
                                              01 p0015 N74-11729
    Current energy shortage in the United States
                                              01 p0015 N74-11730
    Production of hydrogen --- for hydrogen economy 01 p0015 N74-11731
    Implementation of a hydrogen energy carrier system 01 p0015 N74-11735
    Energy research and development: An overview of
      our national effort
                                              01 p0016 N74-11788
    Energy demand and its effect on the ennwironment
[75-5088] 01 p0017 N74-11790
      [P-5048]
    Energy trends and their future effects upon transportation --- applied to rail, truck, and
    The U.S. energy problem. Volume 2: Appendices, part A -- to include alternate energy sources for fossil fuels
                                              01 p0017 N74-11795
      [PB-207518]
    The B.S. energy problem. Volume 2: Appendices, part B --- to include development of alternate
       power sources to reduce fossil fuel consumption [PB-207519] 01 p0017 B74-11
    [PB-207519] O1 p0017 H74-11796
Energy R and D inventory data base. Bibliography,
1973
                                               01 p0017 N74-11849
    Energy facts
                                               01 p0020 N74-12672
    TERRASTAR: Terrestrial application of solar
       technology and research [NASA-CR-129012]
                                               01 p0020 N74-12674
    Energy consumption: Past, present, future
                                               01 p0020 N74-12675
     Energy and resource consumption
                                               01 p0020 N74-12676
     Energy resources
                                               01 p0020 N74-12677
     Solar heating and cooling buildings
                                               01 p0020 N74-12679
     National energy policy
                                               01 D0021 N74-12681
     Solar energy potential
                                               01 p0021 N74-12682
```

Impacts of solar energy utilization 01 p0021 N74-12683 Market potential for solar heating and cooling in buildings 01 p0021 N74-12684 an inventory of energy research, volume 1 01 p0021 N74-12688 Short term energy shortages 01 p0021 #74-12690 Energy research and development and space technology 01 p0022 N74-12691 Energy research and development: A selected reading list [ORNL-EIS-73-65-REV-1] 01 p0022 N74-12695 Solar ponds extended [OCID-16317] 01 p0023 N74-13537 Alternative energy sources: A research challenge [CONF-730560-1] 01 p0024 #74-14097
Manergy: An energy management model of the United States for the prediction of energy demand, resource consumption, environmental effects, the assessment of new technology, and energy resource alternatives O1 p0026 N74-14665
[P-5078] 01 p0026 N74-14684 Federal agency energy conservation [QR-1] 01 p0026 N74-14686 Federal energy conservation --- Federal policy on conservation and reduction of energy requirements
01 p0026 N74-14687
Energy conservation through effective utilization [NBSIR-73-102] 01 p0027 N74-14688 National Fuels and Energy Conservation Act of 1973 [S-REPT-93-526] 01 p0027 N74-14693 Electric energy requirements for environmental protection [CONF-730205-4] 01 p0027 N74-14695 Time factors in slowing down the rate of growth of demand for primary energy in the United States [EQL-7] 01 p0030 N74-15667 The energy situation in the community, situation 1972, forecasts 1973 01 p0030 N74-15679 Energy consumption and gross national product in the United States: An examination of a recent change in the relationship Conservation and efficient use of energy, part 1 01 p0030 W74-15682 01 p0030 N74-15681 Legislative authority of Federal agencies with respect to fuels and energy: A staff analysis The President's energy message and S. 1570 O1 p0031 B74-15687 Summary of the energy conservation and development recommendations contained in the final report of the National Commission on Materials Policy, June 1973: A background paper 01 p0031 N74-15688 The effect of fuel availability on future R and D programs in power generation 01 p0031 N74-15689 Energy conservation, part 1 01 p0031 N74-15690 Energy, resources and the environment
[#72-180-REY-1] 01 p0032 N74~15695 Outlook for energy in the United States to 1985 01 p0032 N74-15697 Residential energy use: An econometric analysis [N-129/-NSF] O1 p0032 N74-15698 Wind-driven power plants, part 1 [NASA-TT-F-15308] 02 p0005 N74-15698 [R-1297-NSF] 02 p0045 N74-15741 Energy conservation with solar climate control --solar heating and cooling of buildings A bibliography of non-technical literature on energy
A bibliography of Congressional publications on energy from the 39th Congress to 1 July 1971

Oz p0051 N74-16642 02 p0050 N74-16513 Balancing supply and degand for energy in the United States --- conferences D2 p0051 N74-16651 Puture United States population, economic growth, and energy demands 02 p0051 K74-16652

Government, policies, national objectives, and the energy industries 02 p0051 N74-16653 Capital requirements of the energy industries
02 p0052 N74-16654
Balancing the demand and supply of oil 02 p0052 N74-16656 Balancing the demand and supply of other energy forms 02 p0052 N74-16660 Energy emergency legislation, part 02 p0052 N74-16662 Fuel shortages, part 1 02 p0053 N74-16664 Fuel shortages, part 2 A review of energy issues and the 91st Congress 02 p0053 N74-16667 02 p0053 N74-16665 A methodology for projecting the electrical energy demand of the manufacturing sector in Callfornia (R-991-MSF/CSRA) 02 p0053 N74-16673 (R-93-HSF/CSRA)

The Soviet Union, the Hiddle Bast, and the evolving world energy situation -- soviet influence [P-5109] 02 p0054 N74-16675 Energy conservation in public and commerical buildings
[P-5093] 02 60054 N [P-5093] 02 p0054 p74-16677 California's electricity quandary. 3: Slowing the growth rate [R-1116-MSF/CSA] [R-1116-MSF/CSh]

Modeling of electric power demand growth
[PR-224045/5Gh]

United States petroleum situation through 1980

127-7615761

02 p0054 N74-16691 02 p0054 x74-16680 02 p0054 N74-16690 Hydrogen economy --- based on hydrogen as energy Source [BNL- 18224] 02 p0060 N74-16809 Solar energy evaluation group report
[ANL-8045] 02 02 p0061 N74-17527 Econometric models: Their application to the economic and energy sectors [CE-BIB-220] 02 p0062 N74-17660 Translations on Eastern Europe Scientific Affairs, no. 383 --- Romanian research on fuel conservation with thermoenergetic equipment and digital processing and transmission of information [JPRS-61101] 02 p0062 N74-17661 02 p0062 N74-17661 Role of thermoenergetic research in saving fuel 02 p0062 N74-17663 NSF-RANN energy abstracts: A monthly abstract journal of energy research
[OREL-EIS-73-52-VOL-1-NO-9] [ORBL-EIS-73-52-VOL-1-NO-9] 02 p0062 N74-17680 Remarks --- computerized simulation of energy demands and financial management 02 p0068 N74-18589 The potential for energy conservation in connectial air transport [R-1360-NSF] 02 p0070 N74-18606 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 Atomic Energy Commission 1 December 1973 report on energy research and development 02 p0075 N74-19606 Energy, resources and the environment: A set of presentations [H73-61] 02 p0075 N74-19615 Reeting California's energy requirements, 1975-2000 02 p0076 W74-19629 National energy policy for meeting DS energy requirements 02 p0079 x74-20613 Optimal electrical energy growth strategies in an era of environmental concern 02 p0080 974-20697 Energy sources - Citations from the early DDC collections [AD-773325] 02 p0081 N74-20705 Conservation of energy 02 p0082 N74-21620 The gasoline and fuel oil shortage congressional hearing to determine causes and corrective actions for fuel shortage problem
[GPO-99-740] 02 p0082 874-21624 [GPO-99-740]

```
ENERGY SOURCES
    Gas generators - A perspective --- alternative
   energy sources comparison
[AIAM PAPER 73-1168]
Energy supply and energy transformers in
                                              01 p0001 A74-11219
      satellites and spacecraft
                                              01 p0006 A74-18189
   Power sources 4: Research and development in
      non-mechanical electrical power sources;
Proceedings of the Eighth International
      Symposium, Brighton, Sussei, England, September 24-26, 1972
                                              02 p0034 A74-20627
    Onboard energy sources and propulsion systems for
      balloons
[ONERA, TP NO. 1311]
                                              02 p0037 A74-24313
    Solar energy to meet the nation's energy needs
                                              01 p0011 N74-10754
      [ NASA-TM-X-68290]
    Energy research and development and space technology
                                              01 p0012 N74-10892
    A hydrogen energy carrier. Volume 1:
                                                   Summary ---
      for meeting energy requirements
[NASA-CR-134175] 01 p0014 N74-11727
    A hydrogen energy carrier. Volume 2: Systems
      analysis
                                              01 p0014 N74-11728
      [ NASA-CR-134176]
    Summary of systems analysis of hydrogen as an
energy carrier in the United States
                                              01 p0015 #74-11729
    Current energy shortage in the United States
                                               01 p0015 N74-11730
    Production of hydrogen --- for hydrogen economy
                                              01 p0015 N74-11731
    Transmission and storage of hydrogen
                                               01 p0015 N74-11732
    Safety, legal, environmental, economic, political,
       and social aspects of hydrogen
                                               01 p0015 N74-11734
    Implementation of a hydrogen energy carrier system 01 p0015 N74-11735
    The energy situation --- emphasizing various
       energy sources, costs, and environmental effects
01 p0016 N74-11744
                                              An overview of
    Bnergy research and development:
       our national effort
                                               01 p0016 N74-11788
    Energy demand and its effect on the ennvironment [P-5048] 01 p0017 N74-1
    [P-5048] 01 p0017 N74-11790
Energy trends and their future effects upon
transportation --- applied to rail, truck, and
       air cargo operations and private energy uses
[P-5046]
10 0017 N74-11791
10 U.S. energy problem. Volume 2: Appendices,
     The U.S. energy problem. Volume 2: Appendices, part A --- to include alternate energy sources
       for fossil fuels
     [PB-207518] 01 p0017 N74-11795
The U.S. energy problem. Volume 2: Appendices,
part 8 --- to include development of alternate
       power sources to reduce fossil fuel consumption
fpp-2075191 01 p0017 N74-11796
       [PB-207519]
     An assessment of solar energy as a national energy
       TARABITER
                                               01 p0019 N74-12462
       [ NASA-CR-136191 ]
     Solar heat utilization in residential heating
       systems
                                               01 B0019 N74-12664
     Energy facts
                                               01 p0020 N74-12672
     TERRASTAR: Terrestrial application of solar
       technology and research
[NASA-CR-129012]
                                               01 p0020 N74-12674
     [NASA-CR-129012]
Energy consumption: Past, present, future
01 p0020 N74-12675
     Energy and resource consumption
                                                01 p0020 N74-12676
     Energy resources
                                                01 p0020 N74~12677
     Components for solar energy
                                                01 p0020 N74~12678
     National energy policy
                                                01 p0021 N74-12681
     Impacts of solar energy utilization 01 p0021 N74-12683
     Barket potential for solar heating and cooling in
buildings
                                                01 p0021 N74-12684
     Strategy for solar heating and cooling in buildings
                                                01 p0021 874-12685
```

```
The Federal Government and energy: R and D
   historical background
                                                 01 p0021 N74-12687
                                               volume 1
01 p0021 N74-12688
An inventory of energy research,
An inventory of energy research, volume 2
                                                 01 p0021 N74-12689
Mathematical methods of optimal planning
   development and use of energy systems
                                                 01 p0022 N74-12693
   [JPRS-60546]
Energy research and development: A selected reading list [ORML-EIS-73-65-REV-1] 01 p0022 N
                                                 01 00022 N74-12695
Report to the president and to the council on environmental quality
                                                 01 p0024 N74~14094
Alternative energy sources: A research challenge
[COMP-730560-1] On p0024 N74-14097 Manergy: An energy management model of the United States for the prediction of energy demand, resource consumption, environmental effects, the
   assessment of new technology, and energy
resource alternatives
                                                 01 p0026 N74-14665
Review of world energy supplies --- reserves and resources of fossil and fissile fuels
[IGU/A-1-73] 01 p0026 N74-14
                                                 01 p0026 N74-14666
Energy policy research and the State of Plorida
[P-5078] 01 p0026 N74-
                                                 01 p0026 N74-14684
 Federal agency energy conservation
                                                  01 p0026 N74-14686
   [QR-1]
 Energy conservation through effective utilization
                                                  01 p0027 N74-14688
   [NBSIR-73-102]
 EPA pollution regulations and fuel shortage: The
   impact on mass transit
                                                  01 p0027 N74-14690
 Energy research and development, 2
                                                  01 p0027 N74-14692
 National Fuels and Energy Conservation Act of 1973
[S-REPT-93-526] 01 p0027 N74-14693
 Bitumen-bearing rocks --- as potential energy
   SOUTCES
                                                  01 p0028 N74-15226
 Coal
                                                  01 p0028 H74-15230
 Geothernal resources --- exploitation for energy
   applications
                                                  01 p0028 N74-15240
 Energy situation and nuclear power --- global applications of nuclear reactors
 applications of nuclear reactors
[NP-19838]
Storage and transportation of synthetic fuels. A
report to the synthetic fuels panel
[ORNI-TH-4307]
Time factors in slowing down the rate of growth of
demand for primary energy in the United States
[EQI-7]
Oly 10030 874-15567
 The energy situation in the community, situation
    1972, forecasts 1973
                                                  01 p0030 N74-15679
 Conservation and efficient use of energy, part 1
01 p0030 M74-15682
Energy resources of the United States --- based on
geological survey of all available sources of
    energy
[CIRC-650]
                                                  01 p0031 N74-15685
 Legislative authority of Federal agencies with
 respect to fuels and energy: A staff analysis
01 p0031 N74-15686
The President's energy message and S. 1570
 On p0031 N74-15687
Summary of the energy conservation and development recommendations contained in the final report of
     the National Commission on Materials Policy,
     June 1973: A background paper
                                                   01 p0031 N74-15688
 The effect of fuel availability on future R and D
    programs in power generation
                                                   01 50031 174-15689
  Energy conservation, part 1
                                                   01 p0031 N74-15690
  Selected list of Bureau of Mines publications on
     petroleum and natural gas, 1961-1970
     [BM-IC-8534]
                                                   01 p0032 N74-15691
  Energy, resources and the environment [N72-180-REV-1] 01
  [N72-180-REW-1] 01 p0032 N74-15695
Outlook for energy in the United States to 1985
01 p0032 N74-15697
```

ENERGY STORAGE SUBJECT INDEX

Residential energy use: An econometric analysis A review of energy policy activities of the 92d [R-1297-NSF] 01 p0032 N74-15698 [NASA-TT-F-15306]

The direct driving of synchronous generators by large scale wind electrical power generating plants in parallel operation with a synchronizing network, part 1

[NASA-TT-F-15301]

O2 p0047 N74-15757 The present status of Honnef wind power plants
rwhel-mr-r-153551 02 p0063 N74-17787 02 p0062 N74-17669 Petroleum: A prediction made in 1950 02 p0065 ¥74-18194 ΓP-5135] Symposium on Energy, Resources and the Environment. Volume 1: Session on International Issues The importance of and progress in the utilization of wind power in Denmark
[NaSA-TT-F-15333] 02 p0047 N74-15 [M72-69-VOL-1-REV-2] Introductory remarks --02 p0068 N74-18582 02 p0047 N74-15758 Application of wind power to rational generation in energy sources development of electricity [NASA-TT-F-15334] 02 p006B N74-18583 02 p0047 N74-15759 Context of the session theme, international issues Investigation of the possibilities of using wind 02 p0068 N74-18584 Computer simulation of world dynamics and implications for policy decisions --- social issues in energy policies power F NASA-TT-P- 153361 02 p0047 N74-15760 Prospects for the utilization of wind energy in 02 p0068 #74-18585 Czechoslovakia CZechoslovania 02 p0048 5/4-15/05 [NASA-TT-P-15305] 02 p0048 5/4-15/05 The utilization of the wind energy 02 p0048 874-15769 02 p0048 N74-15766 Buergy in general --- technology for meeting world energy demand 02 p0068 N74-18587 An economic evaluation of MHD-steam powerplants National energy policies --- for development of employing coal gasification low cost energy [BM-RI-7796] 02 p0051 N74-16620 02 p0069 N74-18592 a bibliography of non-technical literature on energy 02 p0051 N74-16641 An energy ethic --- socioeconomic ethics of energy source development A bibliography of Congressional publications on energy from the 89th Congress to 1 July 1971 02 p0051 R74-16642 02 p0069 N74-18593 Environmental issues, an overview --- of energy source exploitation Balancing supply and demand for energy in the United States --- conferences 02 p0069 N74-18597 Symposium on Energy, Resources and the Environment. Volume 3: Session on Options for 02 p0051 N74-16651 Puture United States population, economic growth, the Puture and their Resources, Economic, and and energy demands Environmental Effects 02 p0051 N74-16652 [M72-69-VOL-3-REV-1] 02 p0069 N74-18598 Government, policies, national objectives, and the energy industries Energy options for the future --- nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 Energy options --- technological developments for 02 p0051 N74-16653 Capital requirements of the energy industries 02 p0052 N74-16654 Balancing the demand and supply of cil new energy sources 02 p0070 N74-18604 Natural resources development and policies, Balancing the demand and supply of coal
02 p0052 N74-16658 including environmental considerations. Addendum: Changing patterns in the world energy Balancing the demand and supply of electricity and nuclear fuels situation [E/C.7/2/ADD.1] 02 p0070 N74-18609 02 p0052 x74-16659 Balancing the demand and supply of other energy Energy statistics: A supplement to the summary of national transportation statistics --- time forms series analysis of transported crude oils 02 p0052 N74-16660 [PB-225331/8GA] 02 p0070 N74-18633 Environmental protection and long run supply of Recycling solid waste for utility fuel and recovery of other resources --- identification crude oil in the United States 02 p0052 974-16661 of mechanical problems in materials handling Energy emergency legislation, part 1 02 p0071 N74-18725 Process for the simultaneous utilization of 02 p0052 N74-16662 geothermic and hydrodynamic energy
02 p0072 N74-18731 Puel shortages, part 1 02 p0053 N74-16664 Fuel shortages, part 2 Energy potential from organic wastes: A review of the quantities and sources [BE-IC-8549] 02 p0053 N74-16665 A review of energy issues and the 91st Congress 02 p0072 N74-18815 02 p0053 N74-16667 Natural gas supply in the decade of the seventies Exploitation of wind energy 02 p0074 x74-19586 feasibility in industrial applications
[NASA-TT-F-15309] 02 p00 Natural gas availability: Present and future 02 p0055 N74-16756 02 p0075 N74-19587 Wind energy conversion systems [NASA-TH-X-69786] Energy resources of the United States 02 p0055 N74-16757 Percy Thomas wind generator designs 02 p0055 N74-16760 Past developments of large wind generators in Europe 02 p0055 074-16761 Clean fuels from blomass --- feasibility of converting plant systems to fuels [NASA-TH-X-71538] Introduction to Voigt's wind power plant -energy conversion efficiency 02 p0077 π74-19706 Proceedings of Workshop on Navy Alternate Energy Sources Research and Development 02 p0055 874-16762 Where there is a wind, there is a [AD-773746] 02 p0078 N74-19717 02 p0055 ¥74-16763 The gasoline and fuel oil shortage Need for a regional wind survey congressional hearing to determine causes and 02 p0055 N74-16764 corrective actions for fuel shortage problem [GPO-99-740] 02 p0082 x74-21624 Surface wind characteristics of some Aleutian Islands --- for selection of windpowered machine EBERGY STORAGE Gas generators - a perspective --- alternative 02 p0056 N74-16766 energy sources comparison [AIAA PAPER 73-1168] The sail wing windmill and its adaptation for use 01 p0001 A74-11219 in rural India Prospects of energy conversion and storage derived 02 p0056 x74-16771 from space systems technology Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0033 A74-19485 Energy research and development and space technology 02 p0061 N74-17190 01 p0012 N74-10892

Transmission and storage of hydrogen 01 p0015 N74-11732 Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 W74-16781 Status and applicability of solid polymer electrolyte technology to electrolytic hydrogen and oxygen production 02 p0058 N74-16782 Superflywheel energy storage system windpowered machines 02 p0058 N74-16783 Energy storage by compressed air --- using vindpowered pumps 02 p0058 N74-16785
A proposed national wind power R and D program --offshore wind power system for electric energy supplies 02 p0059 N74-16794 Sodium: Clean-energy storage medium for vehicular power [LA~5406-MS] 02 p0065 N74-17871 High energy sealed nickel-zinc batteries
[AD-772944] 02 p0072 N74-18737
Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching
[LA-UR-73-910] 02 p0074 N74-19375 Design considerations for a 100-megajoule/500-megawatt superflywheel 02 p0081 N74-20709 [AD-774736] PHERGY TRCHNOLOGY Photo-electric generators --- solar converters for spacecraft and terrestrial power supplies 02 p0036 &74-23842 The BSTEC technology programme in solar energy CODTECTION 02 p0037 A74-24902 Solar cell development in the Federal Republic of Germany 02 p0037 A74-24903 Results and future prospects on photovoltaic power development in France 02 p0037 A74-24904 Technology and performance characteristics of integral diode solar cells 02 p0038 A74-24908 low-cost silicon solar cells for terrestrial applications 02 p0038 A74-24909 New technology for CdS-Cu2S solar cells of high reliability 02 p0038 174-24910 The present potential of Cds solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Possibilities of the thin solar battery applications for the terrestrial use units 02 p0038 A74-24912 Terrestrial utilization of CdS-Cu25 solar photocells in the south of France 02 p0038 A74-24915 Photoelectric power engineering --- applications to solar batteries and converters 02 p0039 A74-24936 Conclusions and recommendations of the United States Solar Energy Panel 02 p0040 A74-24941 Solar energy by photosynthesis --- technological conversion systems modeled on photosynthesis 02 p0042 A74-27322 Solar energy utilization by physical methods --including hydropower, windpower, direct solar
heating and electric power Feasibility study for development of hot-water geothernal systems --- application for potential energy sources [AD-771016] 02 nooch water Symposium on Energy, Resources and the Environment. Volume 1: Session on International Issues [M72-69-VOL-1-REV-2] 02 p0068 874-Computer simulation of world dynamics and implications for policy decisions --- social issues in energy policies 02 p0068 #74-18582 02 p0068 N74-18585

Energy in general --- technology for meeting world energy demand The international aspects of importing natural gas
--- economics of shipping liquefied natural gas
02 p0068 874-18588
Remarks --- computerized simulation of energy demands and financial management demands and rinancial management 02 p0068 874-18589
Energy options for the future --- nuclear energy. Major R&D programs to meet the energy crisis ---solar energy, nuclear fusion, and hydrogen-based power supplies synthetic fuels, and pollution control methods 02 p0069 N74-18602 Energy options --- technological developments for new energy sources 02 p0070 N74-18604 Proceedings of Workshop on Wavy Alternate Energy Sources Research and Development [AD-7737461 02 p0078 N74-19717 Energy research and development: A selected reading list 02 p0080 N74-20627 [ORNL-EIS-73-65] Prospects for liquid hydrogen fueled connercial aircraft 02 50080 974-20647 [PR-37] RNERGY TRANSFER Regional and global energy transfer via passive power relay satellites 01 p0005 A74-16116 Energy research and development and space technology 01 p0012 N74-10892 Some results of testing of a solar water heating installation during the heating season 02 p0048 874-15777 [AD-754628] Review of the windpower activities at the Brace Research Institute 02 p0058 N74-16787 Investigation in energy transfer and energy conversion for advanced power and propulsion systems 02 p0067 N74-18417 [AD-7715811 BUGINE DESIGN The jet engine design that can drastically reduce oxides of nitrogen [AIAA PAPER 74-160] 01 p0006 Astafan - A new concept from Turboneca ---constant speed ducted turbofan engine 01 m0006 A74-18797 02 p0037 174-24697
A model of convex programming for turbojet main parameter selection optimization
[ASME PAPER 74-GT-79] 02 p0042 properties and the selection optimization of USSR 02 p0042 A74-27466 aircraft engines for jet aircraft [AD-772723] 02 p0074 N74-19413 Engine cycle selection for commercial STOL aircraft -- effect of aircraft requirements and operational characteristics on engine parameters
02 p0079 N74-20408 Problem of the application of turbofan engines in air transport. Methods of increase in efficiency of turbofan engine with high bypass ratios [40-773292] 02 p0079 N74-20453 ENGINE MONITORING. INSTRUMENTS Engine sensory requirements for energy management 02 p0043 n74-28311 ENGINE MOISE Refam program. Phas [NASA-TH-X-71456] Phase 1: Summary report 01 p0009 N74-10043 RUGINR TRSTS High energy radiography - A new technique in the development of efficiency and integrity in aero gas-turbine engines 02 p0035 A74-21316 . Oxidation of carbon monoxide in diluted combustion O2 p0041 A74-25221

Installation of turbine-fuels research combustor laboratory --- test facility for analyzing fuel problems in turbine engines
[AD-772945]

ENGINEERING EANAGEMENT
Nathematical matter products at engine idling conditions Mathematical methods of optimal planning development and use of energy systems 01 p0022 N74-12693 [JPRS-60546]

| BHTHLEY | Energy options technological developments for |
|---|--|
| Investigation of a non-equilibrium HHD generator | new onergy sources |
| [AD-766493] 01 p0013 N74-10950 | 02 p0070 N74-18604 |
| BHYIROHERT EFFECTS | REVIRORMENTAL ENGINEERING |
| Solar generators for sounding balloons | New frontiers of civil aeronautics |
| 02 p0040 A74-24940 | 02 p0041 174-25352 |
| Rodelling of combustors - The offocts of ambient | Prosent air pollution situation in Kawasaki city |
| conditions upon performance | and future counterpossures |
| 02 p0040 174-25217 | [KS-27] 01 p0018 874-12321 |
| Applications of meteorology to natural resource | BRAIBCHHELIT OUTTIL |
| planning agriculture, forestry, energy, and | Interdisciplinary applications and interpretations |
| recreation | of ERTS data within the Susquehanna River Basin |
| 01 p0014 x74-11395 | (resource inventory, land use, and pollution) |
| Application of EREP imagery to fracture-related | [274~10061] 01 p0013 x74~11162 |
| mine safety hazards and environmental problems | The energy situation emphasizing various |
| in mining Indiana | energy sources, costs, and environmental effects |
| [#74-10258] 02 p0049 #74-16019 | 01 p0016 N74-11744 |
| Symposium on Energy, Resources and the | Research on the application of satellite remote |
| Environment. Volume 1: Session on | sensing to local, state, regional, and national |
| International Issues | programs involved with resource management and |
| [M72-69-VOL-1-REV-2] 02 p0068 N74-18582 | environmental quality |
| Context of the session theme, international issues | [BASA-CR-136472] 01 p0024 B74-14093 |
| 02 p0068 874-18584 | Symposium on Energy, Resources and the |
| REVIRONMENT MANAGEMENT | Environment. Segmion on Ethica and |
| Report to the president and to the council on | Environmental Aspects of the Demand for and Use |
| environmental quality | of Energy, volume 2 socioeconomic aspects of |
| 01 p0024 N74-14094 | energy resource development |
| Environmental issues and institutional arrangements | [H72-69-VOL-2-REV-1] 02 p0068 N74-18591 |
| economic and environmental aspects of energy | Approach to the holistic analysis of the system |
| policy | man-energy-environment |
| 02 p0069 W74-18595 | [JUL-982-RG] 02 p0080 874-20626 |
| Final environmental statement for the geothernal | BTHANE |
| leasing program. Volume 2: Leasing of | Natural gas as an automotive fuel, an experimental |
| geothermal resources in three California areas | study |
| 02 p0078 #74~19975 | [BH-AI-7806] 01 p0011 974-10715 |
| Final environmental statement for the geothermal | EUROPE |
| leasing program. Volume 3: Proposed geothermal | Aviation needs and public concerns civil |
| leasing and operating regulations | aviation growth in Europe and environmental |
| 02 p0078 N74-19976 | control |
| Final environmental statement for the geothermal | 01 p0027 N74~14749 |
| leasing program. Volume 4: Comments on draft | Past developments of large wind generators in Europe |
| impact statement and proposed regulations | 02 p0055 x74-16761 |
| DEVIRORNENT HODELS 02 p0078 N74-19977 | EXHAUST GASES |
| | The environment and the gas turbine |
| The U.S. energy problem. Volume 2: Appendices, | 02 p0035 A74-21874 |
| part B to include development of alternate power sources to reduce fossil fuel consumption | The association of automotive fuel composition |
| [PB-207519] 01 p0017 N74-11796 | with exhaust reactivity [PB-222609/0] 01 p0010 N74-10129 |
| ENVIRORMENT POLLUTION | Catalytic combustion of carbon monoxide in |
| The environment and the gas turbine | |
| 02 p0035 A74-21874 | gasoline engine exhaust using manganese catalysts [AD-760395] 01 p0011 x74-10874 |
| Energy and the environment: Blectric power | [AD-760395] 01 p0011 N74-10874 Emission calculations for a scramjet powered |
| [PB-223326/0GA] 01 p0028 N74-14791 | hypersonic transport |
| ENVIRONMENT PROTECTION | [BASA-TH-X-71464] 01 p0018 N74-12445 |
| Report to the president and to the council on | Exploratory development of a glass ceramic |
| environmental quality | autogobile thermal reactor anti-pollution |
| 01 p0024 N74-14094 | devices |
| Electric energy requirements for environmental | [NASA-CR-134513] 01 p0019 N74-12447 |
| protection | Effect of water injection on mitric oxide |
| [CONF-730205-4] 01 p0027 N74-14695 | emissions of a gas turbine combustor burning |
| Environmental protection and long run supply of | natural gas fuel |
| crude oil in the United States | [NASA-TM-1-2959] 01 p0025 R74-14651 |
| 02 p0052 N74-16661 | Low energy gas utilization in combustion gas turbine |
| ENVIRONMENTAL CONTROL | 01 p0029 N74-15447 |
| Aviation needs and public concerns civil | Aldehyde and reactive organic emissions from motor |
| aviation growth in Europe and environmental | vehicles. Part 1: Advanced automotive control |
| control | systems vehicles |
| 01 p0027 N74-14749 | [PB-224251/9GA] 02 p0050 N74-16332 |
| An energy ethic socioeconomic ethics of energy | Aldehyde and reactive organic emissions from motor |
| source development | vehicles. Part 2: Characterization of |
| 02 p0069 ¥74-18593 | emissions from 1970 through 1973 model vehicles |
| Mechanisms for achieving cleaner power, prices, | [PB-224252/7GA] 02 p0050 N74-16333 |
| regulations energy policy | NAS report on technological feasibility of |
| 02 p0069 N74-18596 | 1975-1976 motor vehicle emission standards. A |
| Bryironmental issues, an overview of energy | critique of the 1975-1976 Federal automobile |
| source exploitation | emission standards for hydrocarbons and oxides |
| 02 p0069 N74-18597 | of mitrogen |
| Symposium on Energy, Resources and the | [PB-224863/1GA] 02 p0065 W74-18287 |
| Environment. Volume 3: Session on Options for | NAS report on technological feasibility of |
| the Puture and their Resources, Economic, and | 1975-1976 motor vehicle emission standards. |
| Environmental Effects | Automotive spark ignition engine emission |
| [M72-69-VOL-3-REV-1] 02 p0069 N74-18598 | control systems to meet the requirements of the |
| Major R&D programs to meet the energy crisis | 1970 clean air amendments |
| solar energy, nuclear fusion, and hydrogen-based | |
| nous annulisa | [PB-224862/3GA] 02 p0065 #74-18288 |
| power supplies | |
| power supplies 02 p0069 N74-18602 | |
| power supplies | |

02 p0070 N74-18603

SUBJECT INDEX PLUOROCARBORS

MAS report on technological feasibility of Prospects for the utilization of wind energy in 1975-1976 motor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, Hational Academy Czechoslovskia CZECROSLOVARIA [NASA-TT-F-15305] 02 p0048 #74-15766 Percy Thomas wind generator designs of Sciences 02 p0055 N74-16760 [PB-224861/5GA] 02 p0065 H74-18289
WAS report on technological feasibility of
1975-1976 motor vehicle emission standards Where there is a wind, there is a way Technical feasibility study for the development of a large capacity wind powered electrical generating system --- by using vertical airfoil [PB-224858/IGA] 02 p0066 N74-18291
NAS report on technological feasibilities of
1975-1976 motor vehicle emissions standards.
Hanufacturability and costs to proposed
10v-emission automotive engine systems
[PB-224864/9Ga] 02 p0066 N74-18292
Compilation of air pollutant emission factors
(second edition)
[PB-223996/06) action along track system . 02 p0059 N74-16791 The present status of Honnef wind power plants,
[NISA-TT-F-15355] 02 p0053 N74-16791
NIS report on technological feasibility of
1975-1976 Notor vehicle emissions standards. Peasibility of meeting the 1975-1976 exhaust emission standards in actual use [PB-224865/6G&] 02 p0066 #74 [PB-223996/0G1 1 MAS report on technological feasibility of 1975-1976 sotor wenders emission standards. 02 p0066 #74-18303 evaluation of alternative power sources for low-emission automobiles, National Academy of Status of wind-energy conversion [NASA-TH-I-71523] 02 p0077 N74-19705 Clean fuels from biomass --- feasibility of Set ances [PB-224859/9G1] 02 p0067 N74-18406 NAS report on technological feasibility of converting plant systems to fuels
[MSA-TH-I-71538] 02 p0077 H74Combustion and heat recovery of hir Force waste 02 50077 874-19706 1975-1976 motor vehicle emission standards Evaluation of catalyst as automotive exhaust treatment devices, Mational Academy of Sciences [PS-224860/7Ga] 02 p0067 M74-18407 petroleum oils and lubricants [AD-774563] 02 m0082 N78-21391 PROBERL BUDGETS Energy consumption and gross national product in the United States: An examination of a recent change in the relationship Report by the Committee on Motor Vehicle Emissions 02 p0073 N74-19240 A study of mandatory engine maintenance for stay or mandatory engine maintenance for reducing vehicle exhaust emissions. Volume 7: h user's manual and guide to the economic effectiveness computer program [PB-225161/9GA] 02 p0073 N74-1 01 p0030 N74-15681
NASA authorization for fiscal year 1975, part 1
--- Congressional bearings on funding of NASA 02 m0073 N74-19268 Drograms study of mandatory engine maintenance for 02 p0082 N74-21605 reducing vehicle erhaust enissions. Volume 8: Experimental characterization of vehicle FRED SISTEMS Vapor generator feed pump for Rankine cycle automotive propulsion system (Chandler Evans) [PB-222849/2] 01 p0011 N74-10747 emissions and maintenance states [9B-225026/4GA] 02 p0074 N74-19269 EXTERNALLY BLOVE FLAPS PIGURE OF MERIT Investigation of the relative merits of different power plants for STOL-aircraft with blown flap Figure-of-merit calculation methods for organic heat-pipe fluids
[MASA-TH-X-2945] 01 p0015 N74-11 application --- analysis of design requirements 01 p0015 N74-11736 for self-sustained gas supply systems PINANCIAL MANAGEMENT 02 p0078 N74-20406 Remarks --- computerized simulation of energy demands and financial management 02 p0068 N74-18589 E Remarks --- capital requirements to neet energy PARRICATION shortages On inhomogeneities of thin film solar cells 02 p0068 N74-18590 02 p0039 A74-24918 PISSIONABLE MATERIALS PAIL-SAPE SYSTEMS Review of world energy supplies --- reserves and resources of fossil and fissile fuels Power conditioning system for FAA Air Route [IGU/A-1-73] Traffic Control Centers 01 p0026 N74-14666 01 p0004 174-14133 PLANEABLE GASES FATLURE ANALYSIS Natural gas as an automotive fuel, an experimental Smith-Putnam wind turbine experiment study 02 p0055 N74-16758 [BM-RI-7806] 01 p0011 N74-10715 PARS Residential energy use: An econometric analysis [R-1297-NSF] 01 p0032 N74-1 01 p0032.N74-15698 Using large wind power plants to directly drive Balancing the supply and demand for natural gas 02 p0052 N74-16657 synchronous generators in parallel operation with a governing network Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 N74-17190 [NASA-TT-P-15343] 02 p0048 N74-15765 FARADAY BFFECT
Loss mechanisms in an MBD generator --- Book on argon plasma nonequilibrium Paraday generator PLIGHT OPTIMIZATION efficiency Aircraft symmetric flight optimization ---02 p0033 A74-19455 gradient techniques for supersonic aircraft PEASIBILITY ANALYSIS control Summary of the study of disposal of nuclear waste 02 p0036 A74-23091 into space FLOW RESISTANCE The Dolphin airship with undulating propulsion system - A new form of the evaluation factor 01 p0005 A74-16123 Porecasting of technological progress for long-range planning of mining operations at coal mines --- prediction analysis technique for operational development 02 p0035 A74-22272 PLUID ERCHARICS Pigure-of-merit calculation methods for organic The large scale wind driven electrical generating station -- efficiency and economic factors heat-pipe fluids [NASA-TH-X-2945] 01 p0015 N74-11736 FLUID POWER F NA SA-TT-F- 153131 02 p0046 N74-15750 Fluid power for aircraft: Modern hydraulic technology /2nd edition/ Progress in the utilization of wind power (WASA-TT-F-15346) Utilization of wind power 02 p0046 N74-15753 · 02 p0036 174-23376 PLHOROCL PROBS Properties of solid polymer electrolyte fluorocarbon fila --- used in hydrogen/oxygen [NASA-TT-P-15300] 02 p0046 N74-15756 Investigation of the possibilities of using wind fuel cells [NASA-TN-D-7482] power [MASA-TT-F-15336] 02 p0047 N74-15760 01 p0011 N74-10547

| Antenna towers as wind tower generation plants | systems electrolytes for hydrocarbon-air |
|---|---|
| (NASA-TT-P-15304) 02 p0047 N74-15763 | fuel cells |
| Superflywheel energy storage system for | [AD-766329] 01 p0013 N74-1095 Air mobility fuel cell study desulfurization |
| windpowered machines 02 p0058 N74-16783 | of JP-4 fuel |
| wind power, part 2 - economic feasibility, 1949 | [AD-766757] 01 p0022 874-12742 |
| [NASA-TT-F-15419] 02 p0063 N74-17792 | The 1.5-kW fuel cell powerplant |
| Design considerations for a | [AD-767302] 01 p0022 974-12744 Hydrogen generator for hydrocarbon fueled fuel |
| 100-megajoule/500-megawatt superflywheel [AD-774736] 02 p0081 N74-20709 | cells |
| FOLDING STRUCTURES | [AD-767402] 01 p0024 H74-13766 |
| The RAE lightweight solar array design and | Investigation of energy conversion in rapidly |
| development for Radio Astronomy Explorer satellite | cycling fuel cells, 1. A system for studying |
| 02 p0039 A74-24921 POSSIL PUBLS | the surface diffusion of hydrogen on metals, 2 02 p0071 874-18720 |
| Potential pollutants in fossil fuels | Dependence of efficiency and specific |
| [PB-225039/7Gh] 02 p0066 H74-18313 | characteristics of fuel cells on discharge |
| Consumption of energy in New York State: 1972 (with estimates for 1973) | conditions [AD-773264] 02 p0081 R74-20704 |
| [OER-19] 02 p0079 k74-20614 | The 1.5-kW fuel cell powerplant catalyst |
| POSSILS | investigation |
| Review of world energy supplies reserves and resources of fossil and fissile fuels | [AD-774274] 02 p0081 R74-20710 PUBL COMBUSTION |
| [IGU/A-1-73] 01 p0026 M74-14666 | Conversion of fuel nitrogen to NOx in a compact |
| FRACTURE BECHANICS | combustor |
| Practure of coal and oil shale for in situ | [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 |
| processing or remote removal: A proposal support document | The jet engine design that can drastically reduce oxides of nitrogen |
| [SLA-73-946] 02 p0073 E74-19047 | [AIAA PAPER 74-160] 01 p0006 A74-18797 |
| PRACTURING | Modelling of combustors - The effects of ambient |
| Study of application of ERTS-A imagery to fracture-related mine safety hazards in the coal | conditions upon performance 02 p0040 174-25217 |
| mining industry Indiana | B2-02 combustion powered steam-MHD central power |
| [E74-10083] 01 p0014 N74-11195 | systems |
| Study of application of ERTS-A imagery to fracture-related mine safety hazards in the coal | 02 p0042 174-27775 Performance of Army engines with leaded and |
| mining industry | unleaded gasoline. Phase 1: Laboratory testing |
| [E74-10336] 02 p0065 N74-18012 | [AD-766760] 02 p0061 N74-17523 |
| FRAUNHOFER LINE DISCRIMINATORS Quantification of the luminescence intensity of | The hydrogen IC engine: Its origins and future in the emerging energy-transportation-environment |
| natural materials | system |
| 01 p0005 A74-14892 PREIGHT COSTS | [REPT-729212] 02 p0067 874-18403 |
| The international aspects of importing natural gas | The implications for air transportation of energy |
| economics of shipping liquefied natural gas | shortage |
| 02 p0068 R74-18588 PREECH SPACE PROGRAMS | 02 p0033 174-19486 The fuel crisis and the controller turbojet |
| Actual state of French technical developments | aircraft descent trajectories for fuel |
| concerning sources of space power | consumption reduction |
| 01 p0002 A74-12794 Results and future prospects on photovoltaic power | 02 p0034 A74-19726 Airline airplanes for the eighties - A response |
| development in France | emphasizing system efficiency and fuel savings |
| 02 p0037 174-24904 | 02 p0036 174-23464 |
| Solar energy power system using freon | Lockheed S-3A Viking - With low fuel consumption over a wide power range the TF34-GE2 has high |
| [NASA-CASE-HFS-21628-1] 01 p0025 N74-14496 | thrust to weight |
| PREQUENCY RESPONSE | 02 p0036 a74-23839 |
| Effect of dry friction on the response to a | Energy demand and its effect on the ennvironment [P-5048] 01 p0017 N74-11790 |
| symmetric harmonic signal of an energy converter producing mechanical energy | [P-5048] 01 p0017 N74-11790 Energy trends and their future effects upon |
| 02 p0034 A74-20067 | transportation applied to rail, truck, and |
| PUBL CELLS Design of high-temperature solid-electrolyte | air cargo operations and private energy uses [P-5046] 01 p0017 N74-11791 |
| fuel-cell batteries for maximum power output per | [P-5046] 01 p0017 N74-11791 The U.S. energy problem. Volume 2: Appendices, |
| unit volume | part A to include alternate energy sources |
| 02 p0036 A74-22355 | for fossil fuels |
| Cost efficiency of tungsten carbide-carbon fuel cells | [PB-207518] 01 p0017 %74-11795 The U.S. energy problem. Volume 2: Appendices, |
| 02 p0036 A74-24054 | part B to include development of alternate |
| Mass transfer in fuel cells electron | power sources to reduce fossil fuel consumption |
| microscopy of components, thermal decomposition of Teflon, water transport, and surface tension | (PB-207519) 01 p0017 k74-11796 Energy and resource consumption |
| of KOH solutions | 01 p0020 N74-12676 |
| [NASA-CR-134519] 01 p0009 H74-10075 | Buergy resources |
| Study of fuel cell system for powered balloon reusable powerplants | O1 p0020 N74-12677 Short term energy shortages |
| [AD-766253] 01 p0009 N74-10083 | 01 p0021 #74-12690 |
| Electrolyte for hydrocarbon air fuel cells | Energy in transportation energy costs of |
| [AD-766313] 01 p0010 #74-10085 Matrices for H3P04 fuel cells | passenger and cargo transportation 01 p0023 N74-13675 |
| [AD-766312] 01 p0010 N74-10086 | Time factors in slowing down the rate of growth of |
| Properties of solid polymer electrolyte | demand for primary energy in the United States |
| fluorocarbon film used in hydrogen/oxygen fuel cells | [EQL-7] 01 p0030 N74-15667 Individual action for energy conservation |
| [NASA-TN-D-7482] 01 p0011 N74-10547 | |
| 5, beet mit 1034) | 01 p0030 n74-15680 |

| | · |
|---|---|
| Energy consumption and gross national product in the United States: An examination of a recent | University energy research centers 01 p0019 N74-12668 |
| , change in the relationship 01 p0030 N74-15661 | Review of world energy supplies reserves and |
| The effect of fuel availability on future R and D | resources of fossil and fissile fuels [IGU/A-1-73] 01 p0026 N74-14666 |
| programs in power generation 01 p0031 N74-15689 | Influence of fuels and lubricants on turbine engine design and performance, fuel and |
| Energy, resources and the environment | lubricant analyses |
| [M72-180-REV-1] 01 p0032 N74-15695 Aviation needs and public concerns discussing | [AD-769309] 02 p0050 N74-16483 Bhergy sources - Citations from the early DDC |
| noise, fuel and airport problems | collections |
| 02 p0062 N74-17685 And what if we were to switch to hydrogen? use | [AD-773325] 02 p0001 N74-20705 |
| of hydrogen derived from water as a fuel source | G |
| [LL-TR-73-40] 02 p0072 N74-18729 Installation of turbine-fuels research combustor | GAS DINABICS |
| laboratory test facility for analyzing fuel | Significant research results for 1971, High |
| problems in turbine engines [AD-772945] 02 p0073 N74-18897 | Temperature Institute, USSR Academy of Sciences plasma physics and gas dynamics |
| The gasoline shortage: A national perspective | [AD-765753] 01 p0012 N74-10898 |
| 02 p0075 N74-19618 Aeronautical fuel conservation possibilities for | GAS EVOLUTION Kinetics of coal gasification in a low pressure, |
| advanced subsonic transports application of | low residence time, entrained flow reactor |
| aeronautical technology for drag and weight | 02 p0061 N74~17190 |
| reduction [NASA-TM-X-71927] 02 p0080 N74-20654 | GAS PLOW Qualitative analysis of the efficiency of MHD |
| Background material for the Energy Policy | energy conversion |
| Workshop, 11-12 January 1973 conferences [N73-12] 02 p0082 N74-21619 | 01 p0003 A74-13944 Turbo-actuators turn flow into mechanical output |
| FUEL CONTAMINATION | power conversion for missile control or |
| Clean, bright, and dry jet engine fuel contamination control | pneumatic systems 02 p0041 174-27136 |
| 02 p0034 A74-20213 | GAS GENERATORS |
| Combustion and heat recovery of Air Force waste petroleum oils and lubricants | Gas generators - A perspective alternative energy sources comparison |
| [AD-774563] 02 p0082 N74-21391 | [AIRA PAPER 73-1168] 01 p0001 A74-11219 |
| FUEL CONTROL Hydrogen-methane fuel control systems for turbajet | Solid state hydrogen gas generator rocket deployed balloons inflation |
| engines | [AIAA PAPER 73-1232] 01 p0001 A74-11257 |
| [NASA-CR-121247] 02 p0050 N74-16493 | Hydrogen generator for hydrocarbon fueled fuel |
| Experimental reel response system for high performance simplified aerial refueling store | cells [AD-767402] 01 p0024 N74-13766 |
| operational test of hose reel assembly and | An economic evaluation of MHD-steam powerplants |
| control system [AD-771389] 02 p0064 N74~17799 | employing coal gasification [BM-RI-7796] 02 p0051 N74-16620 |
| PUBL CILS Purification of fuel cils by controllings to the control function of fuel cils by controllings to the control function of fuel cils by controllings to the city of | Investigation of the relative merits of different |
| Purification of fuel oils by centrifugal force 02 p0034 A74-20216 | power plants for STOL-aircraft with blown flap application analysis of design requirements |
| Thermal-oxidative stability of automotive diesel | for self-sustained gas supply systems |
| fuels [AD-758146] 02 p0049 N74-15817 | 02 p0078 N74-20406 GAS BEATING |
| Energy potential from organic wastes: A review of | Gas-heated 'heat pipe' vacuum furnace using |
| the quantities and sources [BH-IC-8549] 02 p0072 N74-18815 | thermionic energy conversion 02 p0034 A74-19724 |
| PUBL SYSTEMS | |
| Electric vehicle battery research and development [MASA-TM-X-71471] 01 p0012 N74-10946 | GAS LASERS Prolytion of studios in the field of see learns |
| Hydrogen-methane fuel control systems for turbojet | Byolution of studies in the field of gas lasers 01 p0005 A74-16909 |
| engines [NASA-CR-121247] 02 p0050 N74-16493 | GAS MITURES |
| Experimental reel response system for high | Natural gas as an automotive fuel, an experimental study |
| <pre>performance simplified aerial refueling store operational test of hose reel assembly and</pre> | [BH-RI-7806] 01 p0011 N74-10715 |
| control system | An economic evaluation of MHD-steam powerplants employing coal gasification |
| [AD-771389] 02 p0064 N74-17799 | [BM-RI-7796] 02 p0051 N74-16620 |
| Installation of turbine-fuels research combustor laboratory test facility for analyzing fuel | GAS TURBINE ENGINES Clean, bright, and dry jet engine fuel |
| problems in turbine engines | contamination control |
| [AD-772945] 02 p0073 N74-18897 Nultifuel diesel engines | 02 p0034 A74-20213 High energy radiography - A new technique in the |
| [AD-771198/9GA] 02 p0074 N74-19408 | development of efficiency and integrity in aero |
| FOEL TESTS Aviation turbine fuel and its lubricating | gas-turbine engines 02 p0035 A74-21316 |
| qualities. II | The environment and the gas turbine |
| 02 p0035 A74-22271 Low energy gas utilization in combustion gas turbine | 02 p0035 A74-21874 Oxidation of carbon monoxide in diluted combustion |
| 01 p0029 N74-15447 | products at engine idling conditions |
| FUEL-AIR RATIO Oxidation of carbon monoxide in diluted combustion | 02 p0041 A74-25221 Low NOx emission combustor development for |
| products at engine idling conditions | automobile gas turbine engines |
| 02 p0041 A74-25221 Natural gas as an automotive fuel, an experimental | [PB-225133/8GA] 02 p0067 N74-18414 GAS TURBINES |
| study | Aviation gas turbine engines (selected portions) |
| [BM-RI-7806] 01 p0011 N74-10715 | [AD-756810] 01 p0011 N74-10751 Second iteration analysis of a fossil fuel-fired |
| Substitute catalysts for platinum in automobile | gas turbine-potassium-steam combined cycle |
| enission control devices and petroleum refining | [ORNL-NSP-BP-39] 01 p0019 N74-12577 |

| GASES | | GEOTHERMAL RESOURCES | |
|--|--|---|--|
| Energy potential from organic wastes: | : A review of | Geothermal electricity production | 00 |
| the quantities and sources | _ | Development of geothermal reservoi | 02 p0042 A74-27321 |
| (20 ==) | p0072 N74-18815 | over-pressured areas beneath the | |
| GASOLINE The association of automotive fuel co | omposition | plain of Texas. A feasibility st | |
| with exhaust reactivity | | production from overpressured re | eservoirs |
| rpp-222609/01 01 | p0010 N74-10129 | [AD-766855] | 01 p0018 N74-12183 |
| Determining the effects of gasoline | price on use | Solar energy potential | 01 50021 H74-12592 |
| of metals in automobile manufacture | е p0062 N74-17666 | Geothernal resources exploita | 01 p0021 074-12682 |
| [BM-RI-7871] 02 The gasoline shortage: A national p | erspective | applications | 220 101 000191 |
| o2 | p0075 N74-19618 | •• | 01 p0028 N74-15240 |
| GELS | | Assessment of geothermal energy re | esources |
| Aircraft fuel system tests with gelle | ed | classification of applie lands wa | 01 p0030 N74-15661 |
| fuel-flowmeter calibration, fuel be | oost pump and | Classification of public lands va- geothermal steam and associated | |
| jettison tests [FAA-NA-73-43] 01 | p0017 N74-11828 | resources | |
| GENERAL AVIATION AIRCRAFT | | [CIRC-647] | 02 p0049 N74-16049 |
| General aviation cost impact study. | Volume 1: | Geothernal energy resources and re | |
| Executive summary | -AACA #70 47770 | Conthorns 1 operar | 02 p0053 N74-16670 |
| [AD-771603] U2 General aviation cost impact study. | p0062 %74-17779 | Geothernal energy | 02 p0054 N74-16684 |
| Research methodology | torune r. | Feasibility study for development | |
| [AD-771606] 02 | p0062 N74-17780 | geothermal systems applicat: | ion for potential |
| General aviation cost impact study. | Volume 3: | energy sources | A2 40 5 H H7 H _ 1760 \$ |
| Planning guide | -0060 W7h-17781 | [AD-771016] Final environmental statement for | 02 p0064 N74-17801 |
| | p0062 N74-17781 | leasing program. Volume 2: Le | asing of |
| GROLOGICAL FAULTS Application of ERTS-1 imagery to fra- | cture related | geothermal resources in three C | alifornia areas |
| nine safety hazards in the coal mi | | · · · · · · · · · · · · · · · · · · · | 02 p0078 N74-19975 |
| Indiana | | Pinal environmental statement for | |
| | p0049 N74-16007 | leasing program. Volume 3: Prolessing and operating regulation | |
| Application of EREP imagery to fract mine safety hazards and environmen | ure-related tal mrohlems | reasing and operating regulative | 02 p0078 N74-19976 |
| in mining Indiana | cat bronzeme | Final environmental statement for | the geothermal |
| [E74-10258] 02 | p0049 N74-16019 | leasing program. Volume 4: Co | sments on draft |
| GEOLOGICAL SURVEYS | | , impact statement and proposed r | |
| Nuclear fuels: Uranium | p0028 N74-15257 | Final environmental statement for | 02 p0078 N74-19977 |
| Nuclear fuels: Thorium | p0020 M14-13231 | leasing program. Volume 1: Pr | |
| | p0029 N74-15258 | leasing and operating regulation | ns |
| | • | | 00 EAATO W78-20616 |
| Oil and gas | | | 02 p0079 N74-20616 |
| 01 | p0029 N74-15259 | GERMANIUM ALLOYS | - |
| 01 Oil shale | | State of developments and researc | h problem on the |
| 01 Oil shale | p0029 N74-15259 p0029 N74-15260 | | h problem on the alloy |
| Oil shale Oil shale | | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] | h problem on the |
| Oil shale Offered Peat Offered | p0029 N74-15260 p0029 N74-15261 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS | b problem on the alloy O1 p0009 N74-10080 |
| Oil shale Of Peat Of GBOLOGY Interdisciplinary applications and i | p8029 N74-15260 p8029 N74-15261 aterpretations | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas | h problem on the alloy 01 p0009 N74-10080 s ceramic |
| Oil shale Of Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann | p8029 N74-15260 p8029 N74-15261 nterpretations a River Basin | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution |
| Oil shale Of Peat Of SEOLOGY Interdisciplinary applications and i of ERTS data within the Susqueham (resource inventory, land use, and | p8029 N74-15260 p8029 N74-15261 nterpretations a River Basin | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] | h problem on the alloy 01 p0009 N74-10080 s ceramic |
| Oil shale Of Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 |
| Oil shale Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 resote | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 |
| Oil shale Peat Of Beat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] O1 | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CB-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama | p8029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f | h problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 |
| Oil shale Peat Of Beat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] O1 | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, | State of developments and researc switching of silicon germanium thermoelectric elements [hb-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-lu Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [274-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environment | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] | h problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and [274-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and [274-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT | b problem on the alloy 01 p0009 N74-10080 s ceranic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ins |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and E74-10061] Satellite geological and geophysical sensing of Iceland (274-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen (E74-10124) GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o inagery in structural reconnaissance | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulation | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan uninerals and petroleum | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, roccessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio | b problem on the alloy 01 p0009 N74-10080 S ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ins 02 p0079 N74-20616 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and [274-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [274-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [274-10345] O1 | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCURRENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ons 02 p0079 N74-20616 ference (2nd) |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and E74-10061] Satellite geological and geophysical sensing of Iceland (E74-10073] Investigations using data in Alabama —— land use, mineral exploration, hydrology, water resources, data p data management, marine environment (E74-10124) GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility of imagery in structural reconnaissan minerals and petroleum (E74-10345) GEOPHYSICS | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio | b problem on the alloy 01 p0009 N74-10080 S ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ins 02 p0079 N74-20616 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and [274-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [274-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [274-10345] O1 | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCURRENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/OGA] | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal conulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and E74-10061] Satellite geological and geophysical sensing of Iceland (E74-10073] Investigations using data in Alabama —— land use, mineral exploration, hydrology, water resources, data p data management, marine environmen (E74-10124) GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum (E74-10345) GEOPHYSICS Satellite geological and geophysical sensing of Iceland (E74-10073) | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/0GA] GOVERNMENTS Federal agency energy conservatio [QR-1] | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ins 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and i of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY EETS-1 imagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOFHUSICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERBAL EMERGY CONVERSION | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCURREET Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PD-224750/0GA] GOVERNMENTS Federal agency energy conservation [QR-1] Federal energy conservation F | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 no 01 p0026 N74-14686 ederal policy on |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama —— land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOFHUSICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERMAL ENERGY CONVERSION Geothermal electricity production | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/0GA] GOVERNMENTS Federal agency energy conservatio [QR-1] | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 no 01 p0026 N74-14686 ederal policy on |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and E74-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama —————————————————————————————————— | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCURREET Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PD-224750/0GA] GOVERNMENTS Federal agency energy conservation [QR-1] Pederal energy conservation F conservation and reduction of e | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 n 01 p0026 M74-14686 ederal policy on nergy requirements 01 p0026 N74-14687 luable for |
| Peat O1 Peat O1 Peat O1 GEOLOGY Interdisciplinary applications and if ERTS data within the Susqueham (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOPHESICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERMAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizat source from earth crust heat | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0062 N74-20948 remote p0014 N74-11188 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCURREBUT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulation GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/OGA] GOVERNMENTS Federal agency energy conservation [QR-1] Pederal energy conservation F conservation and reduction of e | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 n 01 p0026 M74-14686 ederal policy on nergy requirements 01 p0026 N74-14687 luable for |
| Oil shale Peat Of Peat Of Peat Of GEOLOGY Interdisciplinary applications and if ERTS data within the Susqueham (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama —— land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 imagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOPHYSICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERHAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizat source from earth crust heat [LA-UR-73-570] O1 | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENTS Proceedings: Energy Resource Con [PB-224750/OGA] GOVERNMENTS Federal agency energy conservatio (QR-1) Pederal energy conservation F conservation and reduction of e Classification of public lands va geothermal steam and associated resources | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ms 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 01 p0026 N74-14686 ederal policy on mergy requirements 01 p0026 N74-14687 luable for igeothermal |
| Oil shale Peat Of Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama —— land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOPHYSICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERMAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizat source from earth crust heat [LA-UR-73-570] Of Assessment of geothermal energy reso | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCURRENET Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PD-224750/0GA] GOVERNMENTS Federal agency energy conservatio [QR-1] Federal energy conservation F conservation and reduction of e Classification of public lands va geothermal steam and associated resources [CIRC-647] | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0079 N74-18634 n 01 p0026 M74-14686 ederal policy on nergy requirements 01 p0026 N74-14687 lumble for geothermal 02 p0049 N74-16049 |
| Oil shale Peat Of Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama —— land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOPHYSICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERMAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizat source from earth crust heat [LA-UR-73-570] Of Assessment of geothermal energy reso | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 p0042 A74-27321 ion power p0022 N74-12696 p0030 N74-15661 | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENTS Proceedings: Energy Resource Con [PB-224750/OGA] GOVERNMENTS Federal agency energy conservatio (QR-1) Pederal energy conservation F conservation and reduction of e Classification of public lands va geothermal steam and associated resources | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal ontigation of ms 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 01 p0026 N74-14686 ederal policy on mergy requirements 01 p0026 N74-14687 iluable for geothermal 02 p0049 N74-16049 iional goals in |
| Oil shale Peat Of Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama —— land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOPHYSICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERMAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizat source from earth crust heat [LA-UR-73-570] Assessment of geothermal energy resource geothermal electric power engreport 2 | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 p0042 A74-27321 ion power p0022 N74-12696 proses p0030 N74-15661 gineering, | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCURRENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/0GA] GOVERNMENTS Federal agency energy conservatio [QR-1] Federal energy conservation F conservation and reduction of e Classification of public lands va geothermal steam and associated resources [CIRC-647] The evolution and dynamics of nat the United States | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 01 p0026 N74-14686 ederal policy on nergy requirements 01 p0026 N74-14687 iluable for geothermal 02 p0049 N74-16049 ional goals in 02 p0053 N74-16666 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOPHRICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERMAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizat source from earth crust heat [LA-UR-73-570] Assessment of geothermal energy resource geothermal electric power engreport 2 [AD-754947] O1 | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 p0042 A74-27321 ion power p0022 N74-12696 mrces p0030 N74-15661 ineering, | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PD-224750/OGA] GOVERNMENTS Federal agency energy conservation [QR-1] Federal energy conservation F conservation and reduction of e Classification of public lands va geothermal steam and associated resources [CIRC-647] The evolution and dynamics of nat the United States California's electricity quandary | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 01 p0026 N74-14686 ederal policy on nergy requirements 01 p0026 N74-14687 iluable for geothermal 02 p0049 N74-16049 ional goals in 02 p0053 N74-16666 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama —————————————————————————————————— | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: fERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 p0042 A74-27321 ion power p0022 N74-12696 nrces p0030 N74-15661 ineering, | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCURRENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/OGA] GOVERNMENTS Federal agency energy conservation [QR-1] Federal energy conservation F conservation and reduction of e Classification of public lands va geothermal steam and associated resources [CIRC-647] The evolution and dynamics of nat the United States California's electricity quandary the growth rate | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ms 02 p0079 N74-20616 ference (2nd) 02 p0079 N74-18634 01 p0026 N74-14686 ederal policy on herery requirements 01 p0026 N74-14687 iuable for geothermal 02 p0049 N74-16049 ional goals in 02 p0053 N74-16666 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susquehann (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [E74-10073] Investigations using data in Alabama land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOPHRICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERMAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizat source from earth crust heat [LA-UR-73-570] Assessment of geothermal energy resource geothermal electric power engreport 2 [AD-754947] O1 | p0029 N74-15260 p0029 N74-15261 nterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: fERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 p0042 A74-27321 ion power p0022 N74-12696 nrces p0030 N74-15661 ineering, | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/OGA] GOVERNMENTS Federal agency energy conservation [QR-1] Federal energy conservation F conservation and reduction of e Classification of public lands va geothermal steam and associated resources [CIRC-647] The evolution and dynamics of nat the United States California's electricity quandary the growth rate [R-1116-NSF/CSA] GRADIBETS | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal conulgation of ns 02 p0079 N74-20616 ference (2nd) 02 p0071 N74-18634 01 p0026 N74-14687 ederal policy on energy requirements 01 p0026 N74-14687 iluable for geothermal 02 p0049 N74-16049 ional goals in 02 p0053 N74-16666 3: Slowing |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if of ERTS data within the Susqueham (resource inventory, land use, and [E74-10061] Satellite geological and geophysical sensing of Iceland [Z74-10073] Investigations using data in Alabama ——- land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [E74-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility o imagery in structural reconnaissan minerals and petroleum [E74-10345] GEOPHYSICS Satellite geological and geophysical sensing of Iceland [E74-10073] GEOTHERMAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizat source from earth crust heat [LA-UR-73-570] Assessment of geothermal energy resource from earth crust heat [LA-UR-73-570] Soviet geothermal electric power engreport 2 [AD-754947] Feasibility study for development of geothermal systems —— application energy sources [AD-771016] | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 p0042 A74-27321 ion power p0022 N74-12696 nrces p0030 N74-15661 ineering, p0048 N74-15776 hot-water for potential | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/OGA] GOVERNMENTS Federal agency energy conservation [QR-1] Pederal energy conservation F conservation and reduction of e Classification of public lands wa geothermal steam and associated resources [CIRC-647] The evolution and dynamics of nat the United States California's electricity quandary the growth rate [R-1116-NSF/CSA] GRADIBNTS Aircraft symmetric flight optimiz | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ins 02 p0079 N74-20616 ference (2nd) 02 p0079 N74-18634 in 01 p0026 N74-14686 ederal policy on inergy requirements 01 p0026 N74-14687 iuable for i geothermal 02 p0049 N74-16697 ijonal goals in 02 p0053 N74-16666 1. 3: Slowing 02 p0054 N74-16680 |
| Oil shale Peat Of Peat Of GEOLOGY Interdisciplinary applications and if sers data within the Susquehann (resource inventory, land use, and [274-10061] Satellite geological and geophysical sensing of Iceland [274-10073] Investigations using data in Alabama —— land use, mineral exploration, hydrology, water resources, data p data management, marine environmen [274-10124] GEOMORPHOLOGY ERTS-1 inagery use in reconnaissance Evaluation of commercial utility of imagery in structural reconnaissance in and petroleum [274-10345] GEOFHESICS Satellite geological and geophysical sensing of Iceland [274-10073] GEOTHERMAL EMERGY CONVERSION Geothermal electricity production Some interfaces in resource utilizated source from earth crust heat [LA-UR-73-570] Assessment of geothermal energy resource geothermal electric power engreport 2 [AD-754947] Feasibility study for development of geothermal systems —— application energy sources | p0029 N74-15260 p0029 N74-15261 aterpretations a River Basin pollution) p0013 N74-11182 remote p0014 N74-11188 from ERTS-A geology, rocessing, ts p0023 N74-13051 prospecting: f ERTS-1 ce for p0082 N74-20948 remote p0014 N74-11188 p0042 A74-27321 ion power p0022 N74-12696 prospecting: p0028 N74-15661 fineering, p0048 N74-15776 hot-water for potential | State of developments and researc switching of silicon germanium thermoelectric elements [AD-765845] GLASS Exploratory development of a glas automobile thermal reactor devices [NASA-CR-134513] GOLD Si-Au Schottky barrier nuclear ba medical applications [TID-26342] Optical properties of thin gold f Schottky barrier solar cells [NASA-CR-137981] GOVERNMENT PROCUREMENT Final environmental statement for leasing program. Volume 1: Pr leasing and operating regulatio GOVERNMENT/INDUSTRY RELATIONS Proceedings: Energy Resource Con [PB-224750/OGA] GOVERNMENTS Federal agency energy conservation [QR-1] Federal energy conservation F conservation and reduction of e Classification of public lands va geothermal steam and associated resources [CIRC-647] The evolution and dynamics of nat the United States California's electricity quandary the growth rate [R-1116-NSF/CSA] GRADIBETS | b problem on the alloy 01 p0009 N74-10080 s ceramic anti-pollution 01 p0019 N74-12447 ttery for 01 p0017 N74-11851 ilms applied to 02 p0076 N74-19698 the geothermal onulgation of ins 02 p0079 N74-20616 ference (2nd) 02 p0079 N74-18634 in 01 p0026 N74-14686 ederal policy on inergy requirements 01 p0026 N74-14687 iuable for i geothermal 02 p0049 N74-16697 ijonal goals in 02 p0053 N74-16666 1. 3: Slowing 02 p0054 N74-16680 |

| RAPES (CHARTS) Energy resources of the United States [CIRC-650] 02 p0075 H74-19614 | BIGH TEMPERATURE RESEARCH Significant research results for 1971, High Temperature Institute, USSR Academy of Sciences |
|---|---|
| ROUND EFFECT BACKINES Reduction of TACV power requirements by multiple-stage air cushions | plasma physics and gas dynamics [AD-765753] 01 p0012 m74-10898 BIGH TEMPERATURE TESTS |
| O2 p0043 A74-27842 The assessment of an air-supported and propelled urban transport system | Characteristics and applications of the solar furnaces of the Central Laboratory of Armanent 02 p0034 174-19559 |
| (CRANPIELD-CTS-1) 02 p0070 N74-18610 ROUND STATIONS | HIGH VOLTAGES |
| Power conditioning system for PAA air route traffic control centers | High voltage solar cell power generating system for regulated solar array development [AIBA PAPER 73-1105] 01 p0002 A74-12242 |
| ROUND WIND 01 p0019 N74-12636 | The multiple junction edge illuminated solar cell |
| Surface wind characteristics of some Aleutian Islands for selection of windpowered machine sites | [NASA-TM-I-71476] 01 p0012 K74-10947 HISTORIES From scientific research to the atomic industry |
| 02 p0056 N74-16766 | history of nuclear power industry [JPRS-60584] The evolution and dynamics of national goals in |
| H | the United States 02 p0053 N74-16666 |
| ANDBOOKS | HOWETCOMB STRUCTURES |
| Counterical petroleum products, properties and applications USSR petroleum industry handbook [AD-754703] 01 p0010 N74-10128 | The use of paper honeycomb for prototype blade construction for small to medium-sized wind driven generators |
| Study of application of ERTS-A imagery to fracture-related mine safety hazards in the coal | 02 p0056 N74-16770 HUBAN FACTORS REGINERRING New frontiers of civil aeronautics |
| mining industry Indiana [E74-10083] 01 p0014 N74-11195 BAT EXCHAPGENS | 02 p0041 a74-25352 Approach to the holistic analysis of the system man-energy-environment |
| Light bulb heat exchanger for magnetohydrodynamic generator applications - Preliminary evaluation | [JUL~982-RG] 02 p0080 N74-20626 HYDRAULIC EQUIPMENT |
| [NASA-TE-D-7534] 02 p0067 N74-18557 BAT PIPES | Effect of dry friction on the response to a symmetric harmonic signal of an energy converter |
| Development program for a liquid methane heat pipe 01 p0003 A74-14046 | producing mechanical energy 02 p0034 174-20067 |
| Gas-heated 'heat pipe' vacuum furnace using thermionic energy conversion | Trends in the mechanization of the coal industry and guarantee of patent-ability of designs that |
| 02 p0034 A74-19724 | are competitive on the world technological level computerized data retrieval system for |
| Figure-of-merit calculation methods for organic heat-pipe fluids [NBSA-TM-X-2945] 01 p0015 N74-11736 | development of hydraulic equipment 01 p0016 N74-11759 |
| A novel method of cooling semiconductor devices for power electronics | HIDRAULIC FIGURE Fluid power for aircraft: Modern hydraulic technology /2nd edition/ |
| [BMFT-FBT-02] 01 p0015 N74-11739 Method of forming a wick for a heat pipe | BYDROCARBON FUELS 02 p0036 A74-23376 |
| [NASA-CASE-MPO-13391-1] 02 p0074 M74-19584 Development concept for a small, split-core, heat-pipe-cooled nuclear reactor | Supersonic fuels from medium oils produced by the thermal cracking of crude oil residues |
| [NASA-TH-X-2996] 02 p0078 N74-20238 | [DFVLR-SOMDR-301] 01 p0006 A74-18925 Energy demand and its effect on the ennvironment {P-5048} 01 p0017 X74-11790 |
| Wind power systems for individual applications electric power supplies for homes | The U.S. energy problem. Volume 2: Appendices, part A to include alternate energy sources |
| 02 p0058 N74-16788 | for fossil fuels [PB-207518] 01 p0017 N74-11795 |
| Heating of a substance by an arc plasma 01 p0001 A74-10463 Gas-heated 'heat pipe' vacuun furnace using | The U.S. energy problem. Volume 2: Appendices, part B to include development of alternate |
| thermionic energy conversion 02 p0034 A74-19724 | power sources to reduce fossil fuel consumption [PB-207519] 01 p0017 N74-11796 Combustion of the gases methane, LP gas and |
| Bffect of finite chemical reaction rates on heat | ammonia in a mixing reactor air pollution control device |
| transfer to the walls of combustion-driven supersonic MHD generator channels | [FOA-1-C-1442-H3] O1 p0022 H74-12824 Oil and gas |
| 02 p0036 A74-23221 Design considerations for the airframe-integrated scramjet | Peat 01 p0029 N74-15259 01 p0029 N74-15261 |
| [WASA-TM-X-2895] 01 p0019 N74-12448 Solar heat utilization in residential heating | Potential pollutants in fossil fuels [PB-225039/7GA] 02 p0066 N74-18313 |
| systems 01 p0019 N74-12664 | HIDROCARBONS Research on electrochemical energy conversion |
| RATING Proceedings of the Solar Heating and Cooling for Buildings Workshop. Part 1: Technical | systems electrolytes for hydrocarbon-air fuel cells [AD-766329] 01 p0013 N74-10951 |
| sessions, Barch 21 and 22 [PB-223536/4GA] 01 p0025 N74-14499 SLICOPTER ENGINES | NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile |
| A simplified life-cycle cost comparison of various engines for small helicopter use | emission standards for hydrocarbons and oxides of nitrogen |
| (NASA-TH-I-71517) 02 p0074 H74-19405 | [PB-224863/1GA] 02 p0065 H74-18287 HYDRONYMANICS |
| The use of the pressurized balloon for detecting energy resources | Process for the simultaneous utilization of geothermic and hydrodynamic energy |
| 02 p0033 A74-19473 | [ABC-TR-7475] 02 p0072 N74-18731 |

| | ************************************** |
|--|--|
| Heat operated cryogenic electrical generator | HYDROGRUMTION The refining of turbine fuels by modern |
| using liquid helium conversion | hydrotreating |
| [HASA CASS III - | fålaa paper 74-162] 01 p0006 A74-18798 |
| MYDNOGEN Solid state hydrogen gas generator rocket | Supersonic fuels from medium oils produced by the |
| deployed balloons inflation | thermal cracking of crude oil residues |
| CATAN DEDED 73=12321 01 00001 A74-1125/ | [DFVLR-SONDDR-301] 01 p0006 174-18925 |
| A hydrogen energy carrier. Volume 1: Summary | RYDROGENOLYSIS |
| for meeting energy regularements | a proposed national wind power R and D program offshore wind power system for electric energy |
| ENICA-CR-1341757 07 00014 N/4-11/2/ | supplies |
| A hydrogen energy carrier. Volume 2: Systems | 02 p0059 N74-16794 |
| analysis rwssa_cp=1341761 01 p0014 N74-11728 | HYDHOLOGY |
| [NASA-CR-134176] 01 pour4 N/4-11/26 Summary of systems analysis of hydrogen as an | Interdisciplinary applications and interpretations |
| energy carrier in the United States | of ERTS data within the Susquehanna River Basin |
| UI PUUL CI 1174-1174 | (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 |
| Current energy shortage in the United States | [E74-10061] 01 p0013 N74-11162 Investigations using data in Alabama from ERTS-A |
| 01 b0012 H14-11120 | land use, mineral exploration, geology, |
| Production of hydrogen for hydrogen economy 01 p0015 N74-11731 | hydrology, water resources, data processing. |
| | data panagement, marine environments |
| Transmission and storage of hydrogen 01 p0015 N74-11732 | [E74-10124] 01 p0023 N74-13051 |
| Safety, legal, environmental, economic, political, | HYPERSONIC SPEED |
| and social aspects of hydrogen | Design considerations for the airframe-integrated |
| 01 p0015 N74-11734 | scranjet [NASA-TM-X-2895] 01 p0019 N74-12448 |
| Implementation of a hydrogen energy carrier systém 01 p0015 N74-11735 | HYPERSORIC VEHICLES |
| Conclusions and recommendations for problems | Emission calculations for a scramjet powered |
| in energy situation, air transportation, and | hypersonic transport |
| hydrogen fuel | [NASA-TM-X-71464] 01 p0018 N74-12445 |
| 01 p0016 X74-1174B | • |
| Hydrogen generator for hydrocarbon fueled fuel | l |
| cells [AD-767402] 01 p0024 N74-13766 | ICBLAND |
| Prospects for hydrogen as a fuel for | Satellite geological and geophysical remote |
| transportation systems and for electrical power | sensing of Iceland [274-10073] 01 p0014 974-11188 |
| generation FORM:-TM-43051 01 p0030 N74-15449 | [E74-10073] 01 p0014 9/4-11188 IMPULSE GENERATORS |
| [ORNL-TM-4305] 01 pouso M74-15443 H2-02 combustion powered steam-HHD central power | Description of the energy source project |
| systems | delivering 1 megajoule in 1 microsecond |
| rāsss=rm=r=715121 02 p0060 N74-16800 | noting high efficiency magnetic energy transfer |
| Hydrogen economy based on hydrogen as energy | by mutually coupled inductances and fast |
| SQUICE | response electromechanical circuit breakers [LP-3] 02 p0061 N74-17454 |
| [BNL-18224] 02 p0060 N74-16809 | INDEXES (DOCUMENTATION) |
| Investigation of energy conversion in rapidly cycling fuel cells, 1. A system for studying | An inventory of energy research, volume 2 |
| the surface diffusion of hydrogen on metals, 2 | 01 p0021 y74-12689 |
| 02 p0071 N74-18720 | INDIANA |
| NASA Lewis H2-02 MHD program | Study of application of ERTS-A imagery to fracture-related mine safety hazards in the coal |
| [NASA-TH-X-71520] 02 p0076 N74-19697 | mining industry Indiana |
| HIDROGEN FUELS The case for hydrogen fueled transport aircraft | [E74-10083] 01 p0014 N74-11195 |
| [AIAA PAPER 73-1323] 01 p0002 A74-11315 | Application of ERTS-1 imagery to fracture related |
| The hydrogen fuel economy and aircraft propulsion | mine safety hazards in the coal mining industry |
| (ATAA PAPER 73-1319] 01 p0006 A74-17905 | Indiana [E74-10238] 02 p0049 N74-16007 |
| The jet engine design that can drastically reduce | [E74-10238] 02 p0049 N74-16007 Application of EREP imagery to fracture-related |
| oxides of nitrogen [ATAA PAPER 74-160] 01 p0006 A74-18797 | mine safety hazards and environmental problems |
| [AIAA PAPER 74-160] 01 p0006 A74-18797 Bydrogen - Make-sense fuel for an American | in mining Indiana |
| supersonic transport | [R74-10258] 02 p0049 N74-16019 |
| [AIAA PAPER 74-163] 02 p0033 A74-19353 | Study of application of ERTS-A imagery to |
| An initial step: A demonstration project | fracture related mine safety hazards in the coal |
| promoting subsonic, hydrogen-fueled aircraft | mining industry [E74-10336] 02 p0065 N74-18012 |
| 01 p0016 N74-11747 | INDUSTRIAL ENERGY |
| Economic comparison of two solar/hydrogen concepts [SLA-73-900] 02 p0060 N74-16810 | Consumption of energy in New York State: 1972 |
| Solar energy systems for generating | (with estimates for 1973) |
| electricity and producing-hydrogen fuels | [OER-19] 02 p0079 N74-20614 |
| [N73-26] 02 p0064 N74-17795 | INDUSTRIAL PLANTS Prom scientific research to the atomic industry |
| The hydrogen IC engine: Its origins and future in the energing energy-transportation-environment | history of nuclear power industry |
| system | [JPRS-60584] 01 p0023 N74-13428 |
| [REPT-729212] 02 p0067 N74-18403 | INDUSTRIES |
| HIDROGEN OXYGEN FUEL CELLS | Commerical petroleum products, properties and applications USSR petroleum industry handbook |
| Experimental determination of dynamic | [AD-754703] 01 p0010 M74-10128 |
| characteristics of hydrogen oxygen fuel cell systems | Energy crisis and small business Federal Trade |
| | Commission report on investigation of petroleum |
| 01 p0009 x74-10074 | |
| Energy storage using high pressure electrolysis | industry |
| Energy storage using high pressure electrolysis and methods for reconversion in automobile | industry 01 p0027 N74-14691 |
| Energy storage using high pressure electrolysis and methods for reconversion in automobile fuel synthesis | industry 01 p0027 N74-14691 The US energy crisis, the multinational oil |
| Energy storage using high pressure electrolysis and methods for reconversion in automobile fuel synthesis 02 p0057 N74-16780 | industry 01 p0027 W74-14691 The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle Bast |
| Energy storage using high pressure electrolysis and methods for reconversion in automobile fuel synthesis | industry 01 p0027 W74-14691 The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle Bast [1D-760868] 02 p0055 W74-16697 |
| Energy storage using high pressure electrolysis and methods for reconversion in automobile fuel synthesis O2 p0057 N74-16780 HYDROGEN-BASED ENERGY H2-02 combustion powered steam-MHD central power systems | industry 01 p0027 N74-14691 The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [1D-760868] O2 p0055 N74-16697 |
| Energy storage using high pressure electrolysis and methods for reconversion in automobile fuel synthesis O2 p0057 N74-16780 HYDROGEN-BASED ENERGY H2-02 combustion powered steam-MHD central power systems O2 p0042 A74-27775 | industry 01 p0027 N74-14691 The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [1D-760868] 1MPORMATION RETRIEVAL The history of technology and engineering solutions |
| Energy storage using high pressure electrolysis and methods for reconversion in automobile fuel synthesis O2 p0057 N74-16780 HYDROGEN-BASED ENERGY H2-02 combustion powered steam-MHD central power systems O2 p0042 A74-27775 And what if we were to switch to hydrogen? use | industry 01 p0027 N74-14691 The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [1D-760868] 02 p0055 N74-16697 IMPORMATION RETRIEVAL The history of technology and engineering solutions computerized data retrieval for coal mine planning |
| Energy storage using high pressure electrolysis and methods for reconversion in automobile fuel synthesis O2 p0057 N74-16780 HYDROGEN-BASED ENERGY H2-02 combustion powered steam-MHD central power systems O2 p0042 A74-27775 | industry 01 p0027 N74-14691 The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [1D-760868] 1MPORMATION RETRIEVAL The history of technology and engineering solutions |

| INHOHOGENEITY On inhomogeneities of thin film solar cells | JAPAN Present air pollution situation in Kawasaki city |
|--|--|
| 02 p0039 A74-24918 | and future countermeasures |
| Problems in the electrical equipment of wind power | [KS-27] 01 p0018 N74-12321 Energy demand in Japan, 1975 to 1985 |
| Plants [NASA-TT-P-15312] 02 p0046 N74-15749 | JET AIRCRAPT HOISE |
| Technology and performance characteristics of | Performance and noise aspects of supersonic transport |
| integral diode solar cells 02 p0038 A74-24908 | 01 p0003 A74-13798 JET ENGINE FUELS |
| INTERMETALLICS | The case for hydrogen fueled transport aircraft |
| State of developments and research problem on the switching of silicon germanium alloy thermoelectric elements | [AIAA PAPER 73-1323] 01 p0002 A74-11315 The refining of turbine fuels by modern hydrotreating |
| [AD-765845] 01 p0009 N74-10080 INTERNAL COMBUSTION ENGINES | [AINA PAPER 74-162] 01 p0006 A74-18798 Supersonic fuels from medium oils produced by the |
| Natural gas as an automotive fuel, an experimental study | thermal cracking of crude oil residues [DFVLR-SONDDR-301] 01 p0006 A74-18925 |
| [BM-RI-7806] 01 p0011 N74-10715 | Clean, bright, and dry jet engine fuel |
| Catalytic combustion of carbon monoxide in gasoline engine exhaust using manganese catalysts | contamination control 02 p0034 A74-20213 |
| [AD-760395] 01 p0011 N74-10874 Performance of Army engines with leaded and | Aviation turbine fuel and its lubricating qualities. II |
| unleaded gasoline. Phase 1: Laboratory testing [AD-766760] 02 p0061 N74-17523 | 02 p0035 A74-22271 Aviation turbine fuels, 1972 |
| The hydrogen IC engine: Its origins and future in | 01 p0014 N74-11592 |
| the emerging energy-transportation-environment system | A simplified life-cycle cost comparison of various |
| [REPT-729212] 02 p0067 N74-18403 INTERNATIONAL COOPERATION | engines for small helicopter use [NASA-TK-X-71517] 02 p0074 N74-19405 |
| The energy situation in the community, situation 1972, forecasts 1973 | JET EXHAUST Jet engine exhaust emissions of high altitude |
| 01 p0030 N74-15679 The evolution and dynamics of national goals in | commercial aircraft projected to 1990 [NASA-TH-X-3007] 02 p0079 N74-20591 |
| the United States | JP-4 JET FUEL |
| 02 p0053 N74-16666 Symposium on Energy, Resources and the | Air mobility fuel cell study desulfurization of JP-4 fuel |
| Bovironment. Volume 1: Session on International Issues | [AD-766757] 01 p0022 N74-12742 The 1.5-kW fuel cell powerplant |
| [M72-69-VOL-1-REV-2] 02 p0068 N74-18582 Introductory remarks international cooperation | [AD-767302] 01 p0022 N74-12744 JUNCTION DIODES |
| in energy sources development 02 p0068 N74-18583 | Technology and performance characteristics of integral diode solar cells |
| | |
| Context of the session theme, international issues | 02 p0038 A74~24908 The multiple junction edge illuminated solar cell |
| 02 p0068 N74-18584 Economic basis for energy and resource use | The multiple junction edge illuminated solar cell [NASA-TM-x-71476] 01 p0012 N74-10947 |
| 02 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact 02 p0068 N74-18586 | The multiple junction edge illuminated solar cell [NASA-TM-x-71476] 01 p0012 N74-10947 |
| 02 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact 02 p0068 N74-18586 Controlled fusion research [FUPH-G-4] 02 p0074 N74-19290 | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 k74-10947 KEROSENE |
| 02 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact 02 p0068 N74-18586 Controlled fusion research | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 x74-10947 |
| O2 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] O2 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 KEROSENE Conversion of fuel mitrogen to NOX in a compact |
| Controlled fusion research [FUPH-G-4] Legal considerations and constraints on US nuclear policy [AUTHORNATIONAL TRADE | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor |
| O2 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] O2 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy [AD-754641] O1 p0024 N74-13697 INTERNATIONAL TRADE The US energy crisis, the multinational oil corporations and their relationship to US | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOX in a compact combustor [ASHE PAPER 73-WA/GT-2] 01 p0002 A74-13293 L LAND USB |
| O2 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] O2 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy [AD-754641] O1 p0024 N74-13697 INTERNATIONAL TRADE The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 |
| O2 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] O2 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy [AD-754641] O1 p0024 N74-13697 INTERNATIONAL TRADE The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [AD-760868] O2 p0055 N74-16697 Natural resources development and policies, | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel nitrogen to NOx in a compact combustor [ASRE PAPER 73-WA/GT-2] 01 p0002 A74-13293 L LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) |
| O2 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] O2 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy [AD-754644] O1 p0024 N74-13697 INTERNATIONAL TRADE The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [AD-760868] O2 p0055 N74-16697 | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 L LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin |
| O2 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] O2 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy [AD-754641] O1 p0024 N74-13697 INTERNATIONAL TRADE The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [AD-760868] O2 p0055 N74-16697 Natural resources development and policies, including environmental considerations. Addendum: Changing patterns in the world energy situation | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel nitrogen to NOx in a compact combustor [ASRE PAPER 73-WA/GT-2] 01 p0002 A74-13293 L LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) (E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, |
| O2 p0068 N74-18584 Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] O2 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy [AD-754641] O1 p0024 N74-13697 INTERNATIONAL TRADE The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [AD-760868] O2 p0055 N74-16697 Natural resources development and policies, including environmental considerations. Addendum: Changing patterns in the world energy situation [E/C-7/2/ADD.1] O2 p0070 N74-18609 INVENTORY MANAGEMENT | The multiple junction edge illuminated solar cell [NASA-TH-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) (E74-10061] Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments |
| Controlled fusion research [FUPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOX in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 L LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, Darine environments [E74-10124] Classification of public lands valuable for |
| Controlled fusion research [FUPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENK Conversion of fuel nitrogen to NOx in a compact combustor [ASRE PAPER 73-WA/GT-2] 01 p0002 A74-13293 L LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources |
| Controlled fusion research [FUPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 L LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-Aland use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [B74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] 02 p0049 N74-16049 |
| Controlled fusion research [FOPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAND USE Interdisciplinary applications and interpretations of RRTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] 02 p0049 N74-16049 Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal |
| Controlled fusion research [FUPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAHD USE Interdisciplinary applications and interpretations of RRTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing and operating regulations |
| Economic basis for energy and resource use energy policy considering social impact 02 p0068 N74-18586 Controlled fusion research [FUPH-G-4] 02 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy [AD-754641] 01 p0024 N74-13697 INTERNATIONAL TRADE The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [AD-760863] 02 p0055 N74-16697 Natural resources development and policies, including environmental considerations. Addendum: Changing patterns in the world energy situation [E/C-7/2/ADD-1] 02 p0070 N74-18609 INTERTORY HANAGEMENT Energy resources of the United States [CIRC-650] ION ENGINES Physical behaviour of some biowaste gases in an ion engine [AIAA PAPER 73-1113] 01 p0001 A74-10691 High voltage solar cell power generating system for regulated solar array development [AIAA PAPER 73-1105] 01 p0002 A74-12242 ION IMPLANTATION | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing and operating regulations |
| Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing and operating regulations 02 p0078 N74-19976 Final environmental statement for the geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations |
| Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENK Conversion of fuel nitrogen to NOx in a compact combustor [ASRE PAPER 73-WA/GT-2] 01 p0002 A74-13293 L LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] 02 p0049 N74-16049 Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing and operating regulations 02 p0078 N74-19976 Final environmental statement for the geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations 02 p0078 N74-19977 Final environmental statement for the geothermal |
| Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FOPH-G-4] O2 p0074 N74-19290 INTERNATIONAL LAW Legal considerations and constraints on US nuclear policy [AD-754641] O1 p0024 N74-13697 INTERNATIONAL TRADE The US energy crisis, the multinational oil corporations and their relationship to US foreign policy in the Middle East [AD-760868] O2 p0055 N74-16697 Natural resources development and policies, including environmental considerations. Addendum: Changing patterns in the world energy situation [E/C.7/2/ADD.1] O2 p0070 N74-18609 INVENTORY HANGEMENT Energy resources of the United States [CIRC-650] O2 p0075 N74-19614 ION ENGINES Physical behaviour of some biowaste gases in an ion engine [AIAA PAPER 73-1113] O1 p0001 A74-10691 High voltage solar cell power generating system for regulated solar array development [AIAA PAPER 73-1105] O1 p0002 A74-12242 ION INFLANTATION Analysis and improvement of silicon solar cells O2 p0037 A74-24905 | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAND USE Interdisciplinary applications and interpretations of RRTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing and operating regulations 02 p0078 N74-19976 Final environmental statement for the geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations 02 p0078 N74-19977 Final environmental statement for the geothermal leasing program. Volume 1: Promulgation of leasing and operating regulations |
| Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAHD USE Interdisciplinary applications and interpretations of RRTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [B74-10124] Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing and operating regulations 02 p0078 N74-19976 Final environmental statement for the geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations 02 p0078 N74-19977 Final environmental statement for the geothermal leasing program. Volume 4: Promulgation of leasing and operating regulations 02 p0078 N74-19977 Final environmental statement for the geothermal leasing program. Volume 1: Promulgation of leasing and operating regulations |
| Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FUPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TH-X-71476] 01 p0012 N74-10947 KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAND USE Interdisciplinary applications and interpretations of ERTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) (E74-10061] Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments (E74-10124) 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] 02 p0049 N74-16049 Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations O2 p0078 N74-19976 Final environmental statement for the geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations O2 p0078 N74-19977 Final environmental statement for the geothermal leasing program. Volume 1: Promulgation of leasing and operating regulations O2 p0079 N74-20616 LANDING GEAB Fluid power for aircraft: Modern hydraulic technology /2nd edition/ |
| Economic basis for energy and resource use energy policy considering social impact O2 p0068 N74-18586 Controlled fusion research [FOPH-G-4] | The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 K KEROSENE Conversion of fuel mitrogen to NOx in a compact combustor [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 LAHD USE Interdisciplinary applications and interpretations of RRTS data within the Susquehanna River Basin (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 Investigations using data in Alabama from ERTS-A land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] 01 p0023 N74-13051 Classification of public lands valuable for geothermal steam and associated geothermal resources [CIRC-647] Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing and operating regulations 02 p0078 N74-19976 Final environmental statement for the geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations 02 p0078 N74-19977 Final environmental statement for the geothermal leasing program. Volume 4: Promulgation of leasing and operating regulations 02 p0079 N74-20616 LANDING GEAR Fluid power for aircraft: Modern hydraulic |

SUBJECT INDEX

| LASER REATING | LIQUID-GAS MIXTURES |
|---|--|
| Electric power generation system directly from | Impinging jet separators for liquid metal |
| laser power | magnetohydrodynamic power cycles [WASA-CR-136552] 01 p0027 N74-14785 |
| [MASA-CASE-NPO-13308-1] 02 p0077 N74-19702 | [NASA-CR-136552] 01 p0027 N74-14785 LOW COST |
| LAW (JURISPRUDENCE) | Individual action for energy conservation |
| Legislative authority of Federal agencies with | 01 p0030 N74-15680 |
| respect to fuels and energy: A staff analysis 01 p0031 N74-15686 | Energy in general technology for meeting world |
| LIFT AUGMENTATION . | energy demand |
| Investigation of the relative merits of different | 02 p0068 N74-18587 |
| power plants for STOL-aircraft with blown flap | <pre>#ational energy policies for development of</pre> |
| application analysis of design requirements | low cost energy |
| for self-sustained gas supply systems | 02 p0069 N74-18592 |
| 02 p0078 N74-20406 | LOW TEMPERATURE PHYSICS |
| LIGHTING ROUIPERNT | Cryogenic Engineering Conference, University of |
| A wind plant to power sea signals | Colorado, Boulder, Colo., August 9-11, 1972, |
| [NASA-TT-F-15356] 02 p0060 N74-16803 | Proceedings 01 p0003 174-14043 |
| LIBBAR ACCELERATORS | LOW TEMPERATURE TESTS |
| High energy radiography - A new technique in the development of efficiency and integrity in aero | Nickel-zinc cells with non-sintered electrodes |
| development of efficiency and lategardy in dolo | 02 p0035 A74-20631 |
| 02 p0035 A74-21316 | LOBRICARTS |
| LIGHTERD GASES | Aviation fuels and lubricants |
| Development program for a liquid methane heat pipe | 01 p0006 A74-18180 |
| 01 p0003 A74-14046 | LUBRICATING OILS |
| Prospects for hydrogen as a fuel for | Influence of fuels and lubricants on turbine |
| transportation systems and for electrical power | engine design and performance, fuel and |
| generation | lubricant analyses |
| [ORNI_TN-4305] 01 p0030 N74-15449 | [AD-769309] 02 p0050 W74-16483 |
| Hydrogen-methane fuel control systems for turbojet | Waste lubricating oil research: An investigation of several re-refining methods |
| engines Frasa-CR-121247] 02 p0050 N74-16493 | [BH-RI-7884] 02 p0078 N74-20069 |
| | LUBAR EFFECTS |
| LIQUEFIED FATURAL GAS The international aspects of importing natural gas | Effect of the sun, the moon and solar radiation |
| economics of shipping liquefied natural gas | pressure on a near-equatorial synchronous |
| 02 p0068 #74-18588 | satellite |
| LIQUID HELIUS | 01 p0003 A74-13559 |
| Heat operated cryogenic electrical generator | |
| using liquid helium conversion | M ~ |
| [WASA-CASE-NPO-13303-1] 02 p0077 W74-19701 | |
| LIQUID HYDROGEN | MAGNETIC DIPOLES |
| The case for hydrogen fueled transport aircraft | Design study of superconducting 5 tesla dipole magnets for MGD generators |
| [AIRA PAPER 73-1323] 01 p0002 A74-11315 Cryogenic instrumentation at and above liquid | [IPP-IV-53] 02 p0067 K74-18328 |
| Cryoderic instrumentation at and above iidate | |
| | |
| hydrogen temperature - Present and future | MAGNETIC PIELDS |
| hydrogen temperature - Present and future 01 p0003 A74-14057 | MAGNETIC FIELDS State-of-the-art and prospects of magnetoelectric |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Hydrogen - Hake-sense fuel for an American | MAGNETIC PIELDS |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Hake-sense fuel for an American supersonic transport | State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Hydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] 02 p0033 A74-19353 | State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] MAGNETIC PISTORS The motion of a conducting piston in a channel |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Hydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] 02 p0033 A74-19353 Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 | SAGRETIC FIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 BAGHETIC PISTORS The motion of a conducting piston in a channel with variable inductance |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [ATAA PAPER 74-163] 02 p0033 A74-19353 Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket | SAGRETIC FIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 HAGRETIC PISTORS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Hydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] MAGNETIC PISTOMS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] 02 p0033 A74-19353 Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 02 p0061 N74-16996 | MAGNETIC FIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] GAD-773893] MAGNETIC PISTORS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] 02 p0033 A74-19353 Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 11 quid hydrogen as a fuel for motor vehicles; a | MAGNETIC FIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] O2 p0081 N74-20703 MAGNETIC PISTOMS The motion of a conducting piston in a channel with variable inductance O2 p0036 A74-22279 MAGNETIC SUSPENSION Magnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles: a comparison with other systems | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [ATAN PAPER 74-163] 02 p0033 A74-19353 Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 02 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 | MAGNETIC FIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] O2 p0081 N74-20703 MAGNETIC PISTOMS The motion of a conducting piston in a channel with variable inductance O2 p0036 A74-22279 MAGNETIC SUSPENSION Magnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAN PAPER 74-163] 02 p0033 A74-19353 Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 11quid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Magnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETORIE MEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [ATAN PAPER 74-163] 02 p0033 A74-19353 Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 02 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] MAGNETIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAN PAPER 74-163] 02 p0033 A74-19353 Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 02 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial | HAGHETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (ab-773893) 02 p0081 N74-20703 HAGHETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 HAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] MACHETORIECTRIC BEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] O2 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance O2 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] O2 p0072 N74-18892 MAGNETOELECTRIC NEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] MAGNETOENDRODYNAMIC GENERATORS |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] 02 p0080 N74-20647 | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOMS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Bagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETOELECTRIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773693] 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GERENATORS Satellite nuclear power station: An engineering |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 02 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled counercial aircraft (PR-37) LIQUID METAL COOLED REACTORS | HAGHETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (ab-773893) 02 p0081 N74-20703 HAGHETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 HAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] HAGNETIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [Ab-773893] 02 p0081 N74-20703 HAGNETOHNOROWNHALC GENERATORS Satellite nuclear power station: An engineering analysis Book |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] C1QUID METAL COOLED REACTORS Energy options for the future nuclear energy, | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETORIBETHIC HEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETORINGRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles: a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] LIQUID MERAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTONS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETORIBECTRIC HEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773693] 02 p0081 N74-20703 MAGNETORIBEDORYMANIC GERBHATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 02 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled counercial aircraft (PR-37) LIQUID HETAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-10599 | HAGHETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 HAGHETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 HAGHETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 HAGHETOELECTRIC BEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 HAGHETOENDRODYNHELC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasma |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] CIQUID METAL COOLED RRACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID HETALS | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETOELECTRIC BEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773993] 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasma 01 p0003 A74-13943 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles: a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled counercial aircraft (PR-37) LIQUID METAL COOLED ERACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID HETALS Experimental two-phase liquid-netal | HAGHETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 HAGHETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 HAGHETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 HAGHETOELECTRIC BEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 HAGHETOENDRODYNHELC GEREHATOHS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MHD generators operating on nonequilibrium plasma |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] CIQUID METAL COOLED RRACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID HETALS | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETOELECTRIC BEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasma 01 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion 01 p0003 A74-13944 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Hydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled counercial aircraft [PR-37] 11QUID METAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LMHHD) | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTONS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETOELECTRIC REDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETOMINGROUNDHANC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasma 01 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion 01 p0003 A74-13944 Characteristics of a nonequilibrium MED generator |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [ATAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 1 Q2 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled counercial aircraft (PR-37) LIQUID HETAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-10599 LIQUID SETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LMMHD) technology transfer feasibility study. Volume | HAGHETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (ab-773893) 02 p0081 N74-20703 HAGHETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 HAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 HAGNETIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [Ab-773893] 02 p0081 N74-20703 HAGNETOHNORONYMHIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MHD generators operating on nonequilibrium plasms 01 p0003 A74-13943 Qualitative analysis of the efficiency of MBD energy conversion 01 p0005 A74-17439 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-77/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 1 problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft (PR-37) LIQUID HETAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program (AD-766588] Liquid metal magnetohydrodynamics (LBMHD) technology transfer feasibility study. Volume 1: Summary | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETOLECTRIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasma 01 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion 01 p0003 A74-13944 Characteristics of a nonequilibrium MED generator 01 p0005 A74-17439 Relaxation phenomena in an MED generator with |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-7/1/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft (PR-37) LIQUID METAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-10599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LBMHD) technology transfer feasibility study. Volume 1: Summary [NASA-CR-136197] 01 p0023 N74-13466 | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION 02 p0036 A74-22279 MAGNETIC SUSPENSION 02 p0036 A74-22279 MAGNETIC SUSPENSION 02 p0072 N74-18892 MAGNETIC SUSPENSION 02 p0073 N74-1891 State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC NUMBER OF SUSPENSION 02 p0072 N74-13234 Characteristics of the power of Faraday MHD generators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [ATAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 12 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled counercial aircraft (PR-37) LIQUID HETAL COOLED RRACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-19599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LHMHD) 1: Summary [MASA-CR-136197] 101 p0023 N74-13466 Liquid metal magnetohydrodynamics (LHMHD) | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (ab-773893) 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [Ab-773893] 02 p0081 N74-20703 MAGNETORNOROWNHALC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MHD generators operating on nonequilibrium plasms 01 p0003 A74-13943 Qualitative analysis of the efficiency of MBD energy conversion 01 p0003 A74-13943 Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Hydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-77/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 1 problem statement: Ocean based Solar-to-hydrogen energy conversion macro system 02 p0074 N74-19391 A problem statement: Ocean based Solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft (PR-37) LIQUID HETAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program (AD-766588] Liquid metal magnetohydrodynamics (LMMHD) technology transfer feasibility study. Volume 1: Summary [MSSA-CR-136197] Liquid metal magnetohydrodynamics (LMMHD) technology transfer feasibility study. Volume | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETOLECTRIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasma 01 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion 01 p0003 A74-13944 Characteristics of a nonequilibrium HED generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-7/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-16996 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] CUQUID METAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-10599 LIQUID SETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LEMHD) technology transfer feasibility study. Volume 1: Summary [NASA-CR-136197] Liquid metal magnetohydrodynamics (LEMHD) technology transfer feasibility study. Volume 2: Appendixes | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOMS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Magnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETORIZCTRIC NEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Paraday MED generators operating on nonequilibrium plasms 01 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion 01 p0003 A74-13944 Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [ATAN PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 02 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled counercial aircraft (PR-37) LIQUID HETAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-10599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LHMHD) technology transfer feasibility study. Volume 1: Summary [MASA-CR-136197] Liquid metal magnetohydrodynamics (LHMHD) technology transfer feasibility study. Volume 2: Appendixes [NASA-CR-136198] 01 p0023 N74-13467 | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETOLECTRIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasma 01 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion 01 p0003 A74-13944 Characteristics of a nonequilibrium HED generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-7/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-16996 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] CUQUID METAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-10599 LIQUID SETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LEMHD) technology transfer feasibility study. Volume 1: Summary [NASA-CR-136197] Liquid metal magnetohydrodynamics (LEMHD) technology transfer feasibility study. Volume 2: Appendixes | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [ab-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] MAGNETORIC REDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [ab-773893] 02 p0081 M74-20703 MAGNETORNOROWNHALC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MHD generators operating on nonequilibrium plasma 01 p0003 A74-13943 Qualitative analysis of the efficiency of MHD energy conversion 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [ATAN PAPER 74-163] Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 12 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft (PR-37) LIQUID HETAL COOLED RRACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-19599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LMHD) technology transfer feasibility study. Volume 1: Summary [MASA-CR-136197] Liquid actal magnetohydrodynamics (LMHD) technology transfer feasibility study. Volume 2: Appendixes [HASA-CR-136198] Cryogenic instrumentation at and above liquid hydrogen temperature - Present and future | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] MAGNETORIC REDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] 02 p0081 M74-20703 MAGNETORNOROWNHALC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MHD generators operating on nonequilibrium plasma 01 p0003 A74-13943 Qualitative analysis of the efficiency of MHD energy conversion 01 p0003 A74-13943 Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 The motion of a conducting piston in a channel with variable inductance |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft (PR-37) LIQUID METAL COOLED REACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID SETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LMMHD) technology transfer feasibility study. Volume 1: Summary [MASA-CR-136197] Liquid metal magnetohydrodynamics (LMMHD) technology transfer feasibility study. Volume 2: Appendixes [MASA-CR-136198] Cryogenic instrumentation at and above liquid hydrogen temperature - Present and future 01 p0003 A74-14057 | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] O2 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance O2 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] MAGNETIC SEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers [AD-773893] MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book O1 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasma O1 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion O1 p0003 A74-13944 Characteristics of a nonequilibrium MED generator O1 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an MhD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 The motion of a conducting piston in a channel with variable inductance |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-7/1/7] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-16996 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] LIQUID METAL COOLED RRACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LBMHD) technology transfer feasibility study. Volume 1: Summary [MASA-CR-136197] Liquid aetal magnetohydrodynamics (LBMHD) technology transfer feasibility study. Volume 2: Appendixes [MASA-CR-136198] Cryogenic instrumentation at and above liquid hydrogen temperature - Present and future 01 p0003 A74-14057 A problem statement: Ocean based | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (AD-773893) 02 p0081 N74-20703 MAGNETIC PISTOMS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Magnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness (CTS-2) 02 p0072 N74-18892 MAGNETORIZCTRIC MEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (AD-773893) 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasms 01 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion 01 p0003 A74-13944 Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 Effect of finite chemical reaction rates on heat |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [ATAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a weans of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-71/17] 102 p0061 N74-16996 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled counercial aircraft (PR-37) LIQUID HETAL Energy options for the future nuclear energy, synthetic fuels, and pollution control methods Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 12 p0069 N74-18599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LHMHD) technology transfer feasibility study. Volume 1: Summary [MASA-CR-136197] Liquid metal magnetohydrodynamics (LHMHD) technology transfer feasibility study. Volume 2: Appendixes [NASA-CR-136198] Cryogenic instrumentation at and above liquid hydrogen temperature - Present and future 01 p0003 A74-14057 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (ab-773893) 02 p0081 N74-20703 MAGNETIC PISTOHS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Hagnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness [CTS-2] 02 p0072 N74-18892 MAGNETIC SEDIA 02 p0072 N74-18892 MAGNETORIC MEDIA 02 p0072 N74-18892 MAGNETORIC MEDIA 02 p0081 N74-20703 MAGNETORINGOUVARIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MHD generators operating on nonequilibrium plasms 01 p0003 A74-13943 Qualitative analysis of the efficiency of Magnetoelectric of a nonequilibrium plasms 01 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven |
| hydrogen temperature - Present and future 01 p0003 A74-14057 Bydrogen - Make-sense fuel for an American supersonic transport [AIAA PAPER 74-163] Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781 The production of liquid hydrogen at the Rocket Propulsion Establishment [RPE-TR-7/1/7] Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-16996 A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N74-19694 Prospects for liquid hydrogen fueled commercial aircraft [PR-37] LIQUID METAL COOLED RRACTORS Energy options for the future nuclear energy, synthetic fuels, and pollution control methods 02 p0069 N74-18599 LIQUID HETALS Experimental two-phase liquid-metal magnetohydrodynamic generator program [AD-766588] Liquid metal magnetohydrodynamics (LBMHD) technology transfer feasibility study. Volume 1: Summary [MASA-CR-136197] Liquid aetal magnetohydrodynamics (LBMHD) technology transfer feasibility study. Volume 2: Appendixes [MASA-CR-136198] Cryogenic instrumentation at and above liquid hydrogen temperature - Present and future 01 p0003 A74-14057 A problem statement: Ocean based | MAGNETIC PIELDS State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (AD-773893) 02 p0081 N74-20703 MAGNETIC PISTOMS The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 MAGNETIC SUSPENSION Magnetic suspension and guidance of high speed vehicles feasibility and cost effectiveness (CTS-2) 02 p0072 N74-18892 MAGNETORIZCTRIC MEDIA State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers (AD-773893) 02 p0081 N74-20703 MAGNETOHYDRODYNAMIC GENERATORS Satellite nuclear power station: An engineering analysis Book 01 p0002 A74-13234 Optimization of the power of Faraday MED generators operating on nonequilibrium plasms 01 p0003 A74-13943 Qualitative analysis of the efficiency of MED energy conversion 01 p0003 A74-13944 Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 The motion of a conducting piston in a channel with variable inductance 02 p0036 A74-22279 Effect of finite chemical reaction rates on heat |

```
H2-02 combustion powered steam-MHD central power
                                                                                                   General aviation cost impact study. Volume 3:
                                                                                                      Planning guide
[AD-771759]
                                                                                                                                                        02 00062 974-17781
  -Closed cycle MHD for central station power with
                                                                                               HANDPACTORING
                                                                                                   Importance and progress of wind power utilization
       fossil or nuclear fuels
                                                        01 90012 878-10949
                                                                                                       in Denmark
                                                                                                      [ NASA-TT-F-15349]
    Investigation of a non-equilibrium MED generator
[AD-766493] 01 p0013 N74-10950
                                                                                                                                                        02 p0046 N74-15754
       [AD-766493]
                                                                                               MARIDE BUVIRONBERTS
   [AD-766493] 01 p0013 F74-10950
Experimental two-phase liquid-metal
magnetohydrodynamic generator program
[AD-766588] 01 p0013 F74-10952
Development of design criteria, cost estimates,
and schedules for an HRD high performance
demonstration experiment
                                                                                                   Investigations using data in Alabama from ERTS-A
--- land use, mineral exploration, geology,
hydrology, water resources, data processing,
data management, marine environments
[E74-10124]
01 p0023 874-13051
                                                                                               BASS TRANSPER
                                                                                                   Mass transfer in fuel cells --- electron microscopy of components, thermal decomposition of Teflon, water transport, and surface tension of KOH solutions
       f AD-7662321
                                                        01 p0017 N74-11852
    Liquid metal magnetohydrodynamics (LEMHD)
technology transfer feasibility study. Volume
        1: Summary
       [ NASA-CR-136197]
                                                                                                       [ WASA-CR-134519 ]
                                                                                                                                                        01 D0009 974-10075
                                                        01 p0023 N74-13466
    Liquid metal magnetohydrodynamics (LMMHD) technology transfer feasibility study. Volume 2: Appendixes
                                                                                               MATERIALS HANDLING
                                                                                                   Energy trends and their future effects upon
transportation --- applied to rail, truck, and
                                                                                                      air cargo operations and private energy uses
       [ NASA-CR-136198]
                                                        01 p0023 N74-13467
    Impinging jet separators for liquid metal
                                                                                                       [P-5046]
       magnetohydrodynamic power cycles
                                                                                               MATERIALS TRSTS
                                                        01 00027 #74-14785
                                                                                                    Characteristics and applications of the solar
    Experimental research on model NHD generator D-02
                                                                                                      furnaces of the Central Laboratory of Armament 02 po034 A74-19559
      [Stage 2], Scientific and Technical Report 17/73
[JPRS-60972] 02 p0050 N74-16424
                                                                                               MAPREMATICAL MODELS
                                                                                                    modelling of combustors - The effects of ambient conditions upon performance
    H2-02 combustion powered steam-NHD central power
        systems
       [NASA-TH-X-71512]
                                                        02 p0060 N74-16800
                                                                                                                                                        02 p0040 A74-25217
                                                                                                   O2 p0040 A74-7
A model of convex programming for turbojet main parameter selection optimization
[ASME PAPER 74-GT-79]
Bathematical methods of optimal planning development and use of energy systems
[JPRS-60546]
01 p0022 N74-
    KIVA-I NHD generator modifications and tests
[AD-770063] 02 p0060 N74-16815
    Direct energy conversion methods
[AD-770000]
                                                                                                                                                        02 p0042 A74-27466
    [AP-/70000] 02 p0061 N74-16816
Design study of superconducting 5 tesla dipole
magnets for MGD generators
[IPP-IV-537
                                                                                                                                                        01 p0022 N74-12693
       [IPP-IV-53]
                                                                                                    Econometric models: Their application to the
                                                        02 p0067 N74-18328
                                                                                                       economic and energy sectors
    Light bulb heat exchanger for magnetohydrodynamic
       generator applications - Preliminary evaluation [NASA-TN-D-7534] 02 p0067 N74-18557
                                                                                                       CCE-BIB-2201
                                                                                                                                                        02 p0062 N74-17660
                                                                                               MEASURING INSTRUMENTS
    Thermal cycle and efficency of a versatile power
                                                                                                    Cryogenic instrumentation at and above liquid
                                                                                                       hydrogen temperature - Present and future
01 p0003 A74-14057
       unit with a magnetohydrodynamic generator and
       thermoelectric generator
       [JPRS-61359]
                                                        02 p0071 N74-18723
NASA Lewis H2-02 HHD program
[NASA-TH-X-71520]
HAGNETOHYDBODYNAMIC WAYES
                                                                                                   Current European developments in solar paddle drives
01 p0014 M74-11672
Voight variable speed drive --- for windpowered
                                                        02 p0076 N74-19697
    Investigation of a non-equilibrium MMD generator
                                                                                                   02 p0057 R74-16779
Technical feasibility study for the development of a large capacity wind powered electrical generating system --- by using vertical airfoil motion along track system
       [AD-766493]
                                                        01 p0013 N74-10950
MAGNETOHYDRODYNAMICS
    Magnetohydrodynamic method of obtaining electrical
energy (collected articles)
[AD-765933] 01 p0011 N74-106
                                                        01 p0011 N74-10681
    HHD for power generation: The view of a chosen few [AD-760342] 01 p0025 H74-14408
                                                                                                                                                        02 p0059 N74-16791
                                                                                                    Computer program for thermodynamic analysis of
                                                                                                       open cycle multishaft power system with multiple reheat and intercool
     Experimental research on model MHD generator U-02
       (Stage 2), Scientific and Technical Report 17/73
[JPRS-60972] 02 p0050 N74-16424
                                                                                                       [ NASA~TN-D-7589]
                                                                                                                                                        02 p0071 N74-18727
                                                                                               MECHABICAL EBGIBERING
    Design study of superconducting 5 tesla dipole magnets for MGD generators
[IPP-IV-53] 02 p0067 N74
                                                                                                    Quarterly bulletin of the Division of Mechanical Engineering and the Mational Meronautical Establishment, 1 July - 30 September 1973 ---
                                                        02 p0067 N74~18328
                                                                                                       reports on reynolds number effects, energy in transportation, and wave buoy accelerometer [DME/NAE-1973(3)] 01 p0023 N74-13673
    State-of-the-art and prospects of magnetoelectric
       wachines for self-contained electrical supply
systems and controllable electrical drivers
[AD-773893] 02 p0081 N74-
                                                        02 p0081 N74-20703
                                                                                               MBRCURY ALLOYS
                                                                                                    Possibility of commutating thermoelectric batteries with the aid of mercury amalgam [AD-756068] 01 p0010 N74-10084
HANAGEMENT BETHODS
    Legislative authority of Federal agencies with
respect to fuels and energy: A staff analysis
01 p0031 N74-15686
                                                                                               METAL COATINGS
                                                                                                    A panel for selectively absorbing solar thermal
energy and the method for manufacturing the panel
[NASA-CASE-MFS-22562-1] 02 p0076 N74-19700
    Energy conservation, part 1
                                                        01 p0031 N74-15690.
MANAGEMENT PLANSING
    Relevance of ERTS to the State of Ohio ---
                                                                                               METAL FILES
      elevance of plans to the state resources re74-10024] 01 p0013 H74-11159
                                                                                                    Application and durability of solar absorber
                                                                                                       coatings --- thermal power source for spaceborne cryogenic refrigerators
    Assessment of geothernal energy resources
                                                        01 p0030 N74-15661
                                                                                                       [ 10-769449]
                                                                                                                                                         02 p0049 N74-16264
    Federal Energy Organization: A staff analysis
02 p0053 N74-16669
General aviation cost impact study. Volume 1:
                                                                                                    Optical properties of thin gold films applied to
Schottky barrier solar cells
[NASA-CR-137981] 02 p0076 874-19
                                                                                                                                                        02 p0076 N74-19698
       Executive summary
                                                                                               METAL HYDRIDES
    [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2:
                                                                                                    Chemical storage of hydrogen in Ni/H2 cells
                                                                                                                                                        01 p0004 A74-14248
     Research methodology [AD-771606]
                                                        02 p0062 N74-17780
```

Trends in the mechanization of the coal industry and guarantee of patent-ability of designs that are competitive on the world technological level --- computerized data retrieval system for development of hydraulic equipment BETAL SUBPACES Investigation of energy conversion in rapidly cycling fuel cells, 1. A system for studying the surface diffusion of hydrogen on metals, 2 02 p0071 N74-18720 01 p0016 974-11759 Determining the effects of gasoline price on use of metals in automobile manufacture The history of technology and engineering solutions -- computerized data retrieval for coal mine FBM-RI-78711 02 p0062 N74-17666 METROROLOGICAL SERVICES 01 p0016 N74-11760 Need for a regional wind survey Forecasting of technological progress for long-range planning of mining operations at coal mines --- prediction analysis technique for . METROROLOGY applications of meteorology to natural resource planning --- agriculture, forestry, energy, and operational development 01 p0016 N74-11765 Application of ERTS-1 imagery to fracture related mine safety hazards in the coal mining industry 01 p0014 N74-11395 BRTHABE --- Indiana Physical behaviour of some biowaste gases in an [B74-10238] 02 p0049 N74-16007 ion engine Application of EREP imagery to fracture-related [ATAA PAPER 73-1113]
Development program for a liquid methane heat pipe
01 p0003 A74-14046 mine safety hazards and environmental problems in mining --- Indiana [E74-10258] 02 p0049 N74-1 02 p0049 N74-16019 Study of application of ERTS-A imagery to fracture-related mine safety hazards in the coal Natural gas as an automotive fuel, an experimental study [BM-RI-7806] 01 p0011 N74-10715 mining industry Hydrogen-methane fuel control systems for turbojet [274-10336] 02 p0065 N74-18012 engines MIRRORS [NASA-CR-121247] 02 p0050 N74-16493 Refurbishment of solar simulation optical train mirror assemblies MICROWAYE TRANSMISSION
Satellite nuclear power station: An engineering
analysis --- Book [NASA-CR-134123] 01 p0018 N74-12016 HONTANA ERTS-1 imagery use in reconnaissance prospecting: Evaluation of commercial utility of ERTS-1 imagery in structural reconnaissance for 01 p0002 A74-13234 Regional and global energy transfer via passive power relay satellites 01 p0005, 174-16116 minerals and petroleum Space solar power --- satellite-borne generators [874-10345] 02 p0082 N74-20948 for earth consumption MULTISPECTRAL PHOTOGRAPHY 02 p0040 A74-24942 Evaluation of the suitability of Skylab data for HILITARY AIRCRAFT the purpose of petroleum exploration [E74-10331] 02 p Engine sensory requirements for energy management 02 p0065 x74-18007 02 p0043 A74-28311 MILITARY HELICOPTERS Helicopter applications at sea . 02 p0034 A74-19690 MASA PROGRAMS MILITARY TECHNOLOGY The second fifteen years in space; Proceedings of Investigation of chemical APU application for the Eleventh Goddard Memorial Symposium, Washington, D.C., March 8, 9, 1973 small ground power sources [AD-765724] 01 p0009 N74-10082 01 p0004 A74-14463
NASA authorization for fiscal year 1975, part 1
--- Congressional hearings on funding of NASA MINEBAL DEPOSITS Bitumen-bearing rocks --- as potential energy sources programs 01 p0028 K74-15226 02 p0082 N74-21605 Coal NATTONS' 01 p0028 N74-15230 Petroleum: A prediction made in 1950 Nuclear fuels: Uranium [P-5135] 02 p0065 N74-18194 01 p0028 N74-15257 NATURAL GAS Cryogenic instrumentation at and above liquid hydrogen temperature - Present and future 01 p0003 A74-14057 Nuclear fuels: Thorium 01 p0029 N74-15258 Factors affecting the use of coal in present and future energy makers --- background paper for Congressional investigation of earth resources Oil and gas O1 p0029 N74-15259 Selected list of Bureau of Mines publications on petroleum and natural gas, 1961-1970 and energy policies 01 p0031 N74-15684 SINERAL EXPLORATION Г**ви-**IC-8534] [BH-IC-8534] 01 p0032 N74-15691
Natural gas supply in the decade of the seventies
02 p0074 N74-19586 ERTS-1 imagery use in reconnaissance prospecting: Evaluation of the commercial utility of ERTS-1 imagery in structural reconnaissance for Natural gas availability: Present and future minerals and petroleum --- interpretation of Colorado region 02 p0075 N74-19587 Energy program, 1972 [BM-IC-8612] [E74-10007] [E74-10007] 01 p0013 874-11146 Investigations using data in Alabama from ERTS-A 02 D0080 N74-20619 NATURAL GASAAUTOHOBILE FUELS --- land use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [E74-10124] Natural gas as an automotive fuel, an experimental study [BH-RI-7806] 01 p0011 N74-10715 [E74-10124] 01 p0023 N74-13051 ERTS-1 imagery use in recommaissance prospecting: Evaluation of commercial utility of ERTS-1 imagery in structural recommaissance for HAVY Proceedings of Workshop on Navy Alternate Energy Sources Research and Development [AD-773746] 02 p0078 N74-19717 minerals and petroleum [E74-10345] BEW MEXICO 02 p0082 N74-20948 Noncaking coal gasified in a stirred-bed producer [BM-TPR-77] 02 p0073 N74-19117 BINES (EICLVATIONS)
Study of application of ERTS-A imagery to
fracture-related une safety hazards in the coal
mining industry --- Indiana ERTS-1 imagery use in reconnaissance prospecting: Evaluation of commercial utility of ERTS-1 imagery in structural reconnaissance for [E74-10083] 01 p0014 N74-11195 minerals and petroleum [E74-10345] 02 p0082 #74-20948

| Concention of energy in New York States 1972 | history of nuclear power industry |
|--|---|
| Consumption of energy in New York State: 1972 (with estimates for 1973) | [JPRS-60584] 01 p0023 N74-13428 |
| [OER-19] 02 p0079 N74-20614 | Legal considerations and constraints on US nuclear |
| RICKEL CADMIUM BATTERIES | policy |
| Fabrication and testing of negative-limited sealed | [AD-754641] 01 p0024 N74-13697 |
| nickel-cadming cells | Balancing the demand and supply of electricity and |
| [MASA-CR-135981] 01 p0009 k74-10078 | nuclear fuels |
| BICKEL COMPOUNDS | . 02 p0052 N74-16659 |
| Chemical storage of hydrogen in Wi/H2 cells | BUCLEAR PURL BLEMENTS |
| 01 p0004 A74-14248 | Isotope kilowatt program |
| BICKEL PLATE | [ORDL-TM-4243] 01 p0025 N74-14377 |
| Refurbishment of solar simulation optical train | HUCLEAR PUBLS |
| mirror assemblies | Nuclear fuels: Uranium |
| [NASA-CR-134123] 01 p0018 N74-12016 | . 01 p0028 x74~15257 |
| BICABL ZINC BATTERIES | Nuclear fuels: Thorium |
| Sealed, rechargeable mickel-zinc cells | 01 p0029 N74-15258 |
| 02 p0035 A74-20630 | HUCLEAR FUSION |
| Nickel-zinc cells with non-sintered electrodes | Rvolution of studies in the field of gas lasers |
| 02 p0035 474-20631 | 01 p0005 A74-16909 |
| High energy sealed nickel-zinc batteries | Controlled fusion research |
| [AD-772944] 02 p0072 N74-18737 | [FUPH-G-4] 02 p0074 N74-19290 |
| NITROGEN . | NUCLEAR PRISICS |
| Physical behaviour of some biowaste gases in an | Prom scientific research to the atomic industry |
| ion engine | history of nuclear power industry |
| [AIAA PAPER 73-1113] 01 p0001 A74-10691 | [JPRS-60584] 01 p0023 x74-13428 |
| WITROGEN OXIDES | HUCLEAR POWER PLANTS |
| Conversion of fuel mitrogen to NCx in a compact | Satellite nuclear power station: An engineering |
| combustor | analysis Book |
| [ASME PAPER 73-WA/GT-2] 01 p0002 A74-13293 | 01 p0002 A74-13234 |
| The jet engine design that can drastically reduce | Nuclear Science Symposium, 20th, and Nuclear Power |
| oxides of mitrogen | Systems Symposium, 5th, San Francisco, Calif., |
| [AIAA PAPER 74-160] 01 p0006 A74-18797 | November 14-16, 1973, Proceedings |
| NAS report on technological feasibility of | 02 p0041 A74~25901 |
| 1975-1976 motor vehicle emission standards. A | Self-contained low power atomic plants for |
| critique of the 1975-1976 Federal automobile | converting nuclear energy into electrical power |
| emission standards for hydrocarbons and oxides | [AD~766969] 01 p0014 N74-11519 |
| of nitrogen | EUCLEAR POWER REACTORS |
| [PB-224863/1GA] 02 p0065 K74-18287 | Assessment of lightweight mobile nuclear power |
| Low NOx emission combustor development for | systems |
| automobile gas turbine engines | 01 p0006 A74-17813 |
| [PB-225133/8GA] | MUCLEAR PROPELLED AIRCRAFT |
| BOISE REDUCTION | Assessment of lightweight mobile nuclear power |
| New frontiers of civil aeronautics | systems |
| 02 p0041 174-25352 | 01 p0006 A74-17813 |
| Refan program. Phase 1: Summary report | The airship can neet the energy challenge |
| [NASA-TM-X-71456] 01 p0009 H74-10043 | 02 p0034 A74-20166 |
| Section 4: Propulsion and energy | HUCLEAR REACTORS |
| | Energy situation and nuclear power global |
| , 01 p0026 N74~14671 | |
| 90 POUR OUILIBRIUM PLASMAS | |
| NONEQUILIBRIUM PLASMAS | applications of nuclear reactors |
| HOWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 |
| NOWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE |
| NOWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD generators operating on monequilibrium plasma 01 p0003 A74-13943 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power |
| NOWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator | applications of nuclear reactors [MP-19838] BUCLBAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., |
| NOWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings |
| NOWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma Characteristics of a nonequilibrium HHD generator 01 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with | applications of nuclear reactors [MP-19838] BUCLBAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., |
| NOWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD quenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator 01:p0005 A74-17439 Relaxation phenomena in an HHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an HHD generator Book on | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings 02 p0041 A74-25901 |
| ROWEQUILIBRIUM PLASMAS Optinization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings 02 p0041 A74-25901 OCEAR BOTTOR |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings 02 p0041 A74-25901 OCEAN ROTTON Review of the results from the Eastern Atlantic |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator 01:p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings 02 p0041 A74-25901 OCEAN BOTTOM Review of the results from the Bastern Atlantic Continental Margin Program of the International |
| ROBEQUILIBRIUM PLASMAS Optinization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 WORLINEAR PROGRAMMING | applications of nuclear reactors [MP-19838] NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O p0041 A74-25901 C OCEAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HONLINEAR PROGRAMMING A model of convex programming for turbojet main | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 C OCEAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator 01:p0005 A74-17439 Relaxation phenomena in an MHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 WORLINGAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OZ p0041 A74-25901 OCEAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/36A] 02 p0065 N74-18073 |
| ROWEQUILIBRIUM PLASMAS Optinization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium MHD generator O1 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 WORLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] O2 p0042 A74-27466 | applications of nuclear reactors [MP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings 02 p0041 A74-25901 C OCEAR BOTTOR Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] 02 p0065 N74-18073 OFFSHORR PLATFORMS |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HORLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLBAR ELECTRIC POWER GENERATION | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 C OCEAN HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/36A] OFFSHORR PLATFORMS A proposed national wind power R and D program |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium mHD generator 01 p0005 A74-17439 Relaxation phenomena in an BBD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HONLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLBAR RIBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings 02 p0041 A74-25901 OCEAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] 02 p0065 N74-18073 OFFSHORR PLATFORNS A proposed national wind power B and D program offshore wind power system for electric energy |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator O1 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 HONLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] O2 p0042 A74-27466 HUCLIAH ELBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types | applications of nuclear reactors [MP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings 02 p0041 A74-25901 COCEAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-22536/364] 02 p0065 N74-18073 OFFSRORE PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HORLIMBAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLIBLE RIBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 C OCHAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORE PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 874-16794 |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BBD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 WORLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] 02 p0042 A74-27466 HUCLEAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings 02 p0041 A74-25901 OCEAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] 02 p0065 N74-18073 OFFSHORR FLATFORNS A proposed national wind power B and D program offshore wind power system for electric energy supplies 02 p0059 N74-16794 OBIO |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium HBD generator 01:p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 HONLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLBAR ELBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types O2 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power | applications of nuclear reactors [MP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, 5an Francisco, Calif., November 14-16, 1973, Proceedings OCEAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/364] 02 p0065 N74-18073 OFFSHORE PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies OCEAN BOTTOM Relevance of ERTS to the State of Ohio |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HORLIMBAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLIBLE RIBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] 01 p0014 X74-11519 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 C OCEAN HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/36A] OFFSHORR PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 874-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium HBD generator 01:p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 HONLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLBAR ELBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types O2 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 OCEAN BOTTOM Review of the results from the Bastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORE PLATFORES A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 874-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] O1 p0013 N74-11159 |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator O1:p0005 A74-17439 Relaxation phenomena in an HHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an HHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 HONLINEAR PROGRAMHING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLEAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 OCEAN BOTTOM Review of the results from the Bastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/364] 02 p0065 N74-18073 OFFSHORE FLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 N74-16794 OBIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] 01 p00.13 N74-11159 Applicability of Skylab remote sensing for |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HONLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLIBLE RIBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] 01 p0017 N74-11851 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 C OCHAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORE PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies OL p0059 N74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] Applicability of Skylab remote sensing for detection and monitoring of surface mining |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator O1:p0005 A74-17439 Relaxation phenomena in an HHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an HHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 HONLINEAR PROGRAMHING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLEAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 OCEAN BOTTOM Review of the results from the Bastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSMORE PLATFORES A proposed national wind power B and D program offshore wind power system for electric energy supplies O2 p0059 874-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BBD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 WORLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASNE PAPER 74-GT-79] 02 p0042 A74-27466 HUCLBAR RESCRITC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] Dalancing the demand and supply of electricity and | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OCEAN BOTTOM Review of the results from the Bastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/364] 02 p0065 N74-18073 OFFSHORE FLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies OBIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania |
| ROWEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma O1 p0003 A74-13943 Characteristics of a nonequilibrium HHD generator 01:p0005 A74-17439 Relaxation phenomena in an HHD generator with pre-ionizer Book O2 p0033 A74-19454 Loss mechanisms in an HHD generator Book on argon plasma nonequilibrium Faraday generator efficiency O2 p0033 A74-19455 HONLINEAR PROGRAMHING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLEAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] Balancing the demand and supply of electricity and nuclear fuels | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 COCHAN HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORE PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies OL p0059 N74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] O1 p0024 N74-14028 |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HONLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLEAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] 01 p0014 874-11519 Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] 01 p0017 N74-11851 Balancing the demand and supply of electricity and nuclear fuels | applications of nuclear reactors [NP-19838] 01 p0029 N74-15391 NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 OCEAN BOTTOM Review of the results from the Bastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] 02 p0065 N74-18073 OFFSHORE PLATFORES A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 N74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] 01 p0013 N74-11159 Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] 01 p0024 N74-14028 |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BBD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 WORLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASNE PAPER 74-GT-79] 02 p0042 A74-27466 HUCLBAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] 01 p0014 R74-11519 Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] 01 p0017 R74-11851 Balancing the demand and supply of electricity and nuclear fuels 02 p0052 N74-16659 Energy demand in Japan, 1975 to 1985 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Prancisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 COCEAN ROTTON Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/36A] OFFSHORE FLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 874-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] OIL EIPLORATION ERTS-1 imagery use in reconnaissance prospecting: |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19454 HONLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLIBAR ELBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] Balancing the demand and supply of electricity and nuclear fuels 02 p0052 N74-16659 Energy demand in Japan, 1975 to 1985 02 p0069 N74-18600 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 COCHAN HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORE PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies OL p0059 N74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] OI p0024 N74-14028 ERTS-1 imagery use in reconnaissance prospecting: Evaluation of the commercial utility of ERTS-1 |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BBD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 WORLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASNE PAPER 74-GT-79] 02 p0042 A74-27466 HUCLBAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] 01 p0014 R74-11519 Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] 01 p0017 R74-11851 Balancing the demand and supply of electricity and nuclear fuels 02 p0052 N74-16659 Energy demand in Japan, 1975 to 1985 02 p0069 N74-18600 BUCLBAR ENERGY The U.S. energy problem. Volume 2: Appendices, | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCE Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings O2 p0041 A74-25901 OCEAN BOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSEORE PLATFORES A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 B74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] O1 p0024 B74-14028 OIL EIPLORATION ERTS-1 imagery use in reconnaissance prospecting: Evaluation of the commercial utility of ERTS-1 imagery in structural reconnaissance for |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19454 HONLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLIBAR ELBCTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] Balancing the demand and supply of electricity and nuclear fuels 02 p0052 N74-16659 Energy demand in Japan, 1975 to 1985 02 p0069 N74-18600 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 COCHAN HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORE PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies OL p0059 N74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [E74-10024] Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] OI p0024 N74-14028 ERTS-1 imagery use in reconnaissance prospecting: Evaluation of the commercial utility of ERTS-1 |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HORLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLEAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] Balancing the demand and supply of electricity and nuclear fuels 02 p0052 N74-16659 Energy demand in Japan, 1975 to 1985 UCLEAR EFERGY The U.S. energy problem. Volume 2: Appendices, part A to include alternate energy sources for fossil fuels | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 COCHAR HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORR PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 B74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [B74-10024] O1 p0013 N74-11159 Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] O1 p0024 N74-14028 OIL EXPLORATION ERTS-1 imagery use in reconnaissance prospecting: Evaluation of the commercial utility of ERTS-1 imagery in structural reconnaissance for minerals and petroleum interpretation of Colorado region |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BBD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HORLINAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASNE PAPER 74-GT-79] 02 p0042 A74-27466 HUCLBAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] Salancing the demand and supply of electricity and nuclear fuels 02 p0052 N74-16659 Energy demand in Japan, 1975 to 1985 02 p0069 N74-18600 BUCLBAR EMBEGY The U.S. energy problem. Volume 2: Appendices, part A to include alternate energy sources for fossil fuels [PB-207518] 01 p0017 N74-11795 | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 COCHAR HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORR PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 B74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [B74-10024] O1 p0013 N74-11159 Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] O1 p0024 N74-14028 OIL EXPLORATION ERTS-1 imagery use in reconnaissance prospecting: Evaluation of the commercial utility of ERTS-1 imagery in structural reconnaissance for minerals and petroleum interpretation of Colorado region |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HORLINEAR PROGRAMMING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLEAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] Balancing the demand and supply of electricity and nuclear fuels 02 p0052 N74-16659 Energy demand in Japan, 1975 to 1985 UCLEAR EFERGY The U.S. energy problem. Volume 2: Appendices, part A to include alternate energy sources for fossil fuels | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 COCHAR HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORR PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 B74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [B74-10024] O1 p0013 N74-11159 Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] O1 p0024 N74-14028 OIL EXPLORATION ERTS-1 imagery use in reconnaissance prospecting: Evaluation of the commercial utility of ERTS-1 imagery in structural reconnaissance for minerals and petroleum interpretation of Colorado region |
| ROBEQUILIBRIUM PLASMAS Optimization of the power of Faraday MHD qenerators operating on nonequilibrium plasma 01 p0003 A74-13943 Characteristics of a nonequilibrium BHD generator 01 p0005 A74-17439 Relaxation phenomena in an BHD generator with pre-ionizer Book 02 p0033 A74-19454 Loss mechanisms in an MHD generator Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 HONLINEAR PROGRAMHING A model of convex programming for turbojet main parameter selection optimization [ASME PAPER 74-GT-79] HUCLMAR ELECTRIC POWER GENERATION Nuclear eclectic power selective assessment of plant and reactor types 02 p0041 A74-27320 Self-contained low power atomic plants for converting nuclear energy into electrical power [AD-766969] Si-Au Schottky barrier nuclear battery for medical applications [TID-26342] Balancing the demand and supply of electricity and nuclear fuels 02 p0052 N74-16659 Energy demand in Japan, 1975 to 1985 Energy demand in Japan, 1975 to 1985 The U.S. energy problem. Volume 2: Appendices, part A to include alternate energy sources for fossil fuels [PB-207518] Energy research and development: A selected | applications of nuclear reactors [NP-19838] NUCLEAR RESEARCH Nuclear Science Symposium, 20th, and Nuclear Power Systems Symposium, 5th, San Francisco, Calif., November 14-16, 1973, Proceedings OC p0041 A74-25901 COCHAR HOTTOM Review of the results from the Eastern Atlantic Continental Margin Program of the International Decade of Ocean Exploration geophysical prospecting and fishing areas [PB-225036/3GA] OFFSHORR PLATFORMS A proposed national wind power R and D program offshore wind power system for electric energy supplies O2 p0059 B74-16794 OHIO Relevance of ERTS to the State of Ohio management and planning of state resources [B74-10024] O1 p0013 N74-11159 Applicability of Skylab remote sensing for detection and monitoring of surface mining activities Ohio, West Virginia, and Pennsylvania [E74-10160] O1 p0024 N74-14028 OIL EXPLORATION ERTS-1 imagery use in reconnaissance prospecting: Evaluation of the commercial utility of ERTS-1 imagery in structural reconnaissance for minerals and petroleum interpretation of Colorado region |

| An evaluation of the suitability of ERTS data for | OXIDATION RESISTANCE Thermal-oxidative stability of automotive diesel |
|---|--|
| the purposes of petroleum exploration qeological structures of Oklahoma | fuels |
| [874-10029] 01 p0018 k74-12119 | [AD-758146] 02 p0049 N74-15817 |
| petroleum exploration subprogram: Geological interpretation of proportional imagery from | H2-02 combustion powered steam-HHD central power systems |
| ERTS-A satellite [E74-10213] 01 p0028 N74-1502D | [NASA-TH-I-71512] 02 p0060 N74-16800 |
| oil exploration subprogram geological interpretation of images provided by the ERTS-A | NASA Lewis H2-02 MHD program [NASA-TM-X-71520] 02 p0076 N74-19697 |
| satellite Bolivia [RASA-TT-F-15265] 01 p0028 N74-15070 | Р |
| The US energy crisis, the multinational oil corporations and their relationship to US | PADDLES |
| foreign policy in the Middle East | Current European developments in solar paddle drives 01 p0014 n74-11672 |
| [AD-760868] 02 p0055 N74-16697 Evaluation of the suitability of Skylab data for | PARELS |
| the purpose of petroleum exploration [274-10331] 02 p0065 R74-18007 | A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel |
| Review of the results from the Eastern Atlantic | [NASA-CASE-MFS-22562-1] 02 p0076 N74-19700 PAPERS |
| Continental Margin Program of the International Decade of Ocean Exploration geophysical | The use of paper honeycomb for prototype blade construction for small to medium-sized wind |
| prospecting and fishing areas [PB-225036/3GA] 02 p0065 N74-18073 | driven generators |
| pars-1 imagery use in reconnaissance prospecting: | PARABOLIC REPLECTORS 02 p0056 N74-16770 |
| Evaluation of commercial utility of ERTS-1 imagery in structural reconnaissance for | Theoretical performance of cylindrical parabolic |
| minerals and petroleum | solar concentrators 01 p0001 174-10026 |
| (E74~10345] 02 p0082 N74-20948 OKLAHOMA | PARTICLE BRISSION |
| An evaluation of the suitability of ERTS data for | Characterization of particulates and other non-regulated emissions from mobile sources and |
| the purposes of petroleum exploration geological structures of Oklahoma | the effects of exhaust emissions control devices |
| [E74-10029] 01 p0018 N74-12119 | on these emissions [PB-224243/6GA] 02 p0066 N74-18294 |
| OPERATING TEMPERATURE Analysis and improvement of silicon solar cells | [PB-224243/6GA] 02 p0066 N74-18294 . PARTICULATE SAMPLING |
| 02 p0037 174-24905 | Characterization of particulates and other non-regulated emissions from mobile sources and |
| OPERATIONAL PROBLEMS Problems in the electrical equipment of wind power | the effects of exhaust emissions control devices |
| plants | on these emissions [PB-224243/6GA] 02 p0066 N74-18294 |
| [NASA-TT-F-15312] 02 p0046 N74-15749 Final environmental statement for the geothermal | PATERT POLICY |
| leasing program. Volume 3: Proposed geothermal | Trends in the mechanization of the coal industry and guarantee of patent-ability of designs that |
| leasing and operating regulations 02 p0078 N74-19976 | are competitive on the world technological level |
| OPTICAL PROPERTIES | computerized data retrieval system for development of hydraulic equipment |
| Optical properties of thin gold films applied to Schottky barrier solar cells | 01 p0016 #74-11759 |
| [NASA-CR-137981] 02 p0076 N74-19698 | PRODUCTION OF THE PRODUCT OF THE PRO |
| OPTIMAL CONTROL Aircraft symmetric flight optimization | of BRTS data within the Susquebanna River Basin |
| gradient techniques for supersonic aircraft | (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 |
| control 02 p0036 A74-23091 | Applicability of Skylab remote sensing for |
| Determination of optimal air pollution control | detection and monitoring of surface mining activities Ohio, West Virginia, and |
| strategies 02 p0073 N74-19229 | Pennsylvapia |
| OPTIMIZATION A model of convex programming for turbojet main | [E74-10160] 01 p0024 N74-14028 PREPORMANCE PREDICTION |
| parameter selection optimization | Qualitative analysis of the efficiency of MHD |
| [ASER PAPER 74-GT-79] 02 p0042 A74-27466 Dependence of efficiency and specific | energy conversion 01 p0003 A74-13944 |
| characteristics of fuel cells on discharge | Calculations on a solar energy system for electric power and heat generation in buildings |
| conditions [AB-773264] 02 p0081 N74-20704 | [IBI-1773] 01 p0023 N74-13538 |
| ORBITAL SPACE STATIONS | PERFORMANCE TESTS Nickel-zinc cells with non-sintered electrodes |
| Use of Shuttle in establishing large space installations | 02 p0035 A74-20631 |
| V1 p0004 A74-14121 | Development of design criteria, cost estimates, and schedules for an MHD high performance |
| UMGANIC MATRULALS Fuel from organic matter: Possibilities for the | demonstration experiment |
| state of California [P-5107] 02 p0054 N74-16674 | [AD-766232] 01 p0017 R74-11852 French wind generator systems as auxiliary |
| [P-5107] 02 p0054 N74-16674 ORGANIC WASTES (PUBL CONVERSION) | power sources for electrical networks |
| Energy potential from organic wastes: A review of | 02 p0059 N74-16793 Construction of 850 and 4,000 ampere-hour |
| the quantities and sources [BH-IC-8549] 02 p0072 N74-18815 | silver-zinc cells using inorganic separator |
| OSCILLATION DAMPERS The direct driving of synchronous generators by | [AD-771397] 02 p0064 N74-17798 Supplement to the report on the results achieved |
| large scale wind electrical power generating | with SEAS' experimental mill |
| plants in parallel operation with a synchronizing network, part 1 | [NASA-TT-F-15516] 02 p0081 N74-20700 The 1.5-kW fuel cell powerplant catalyst |
| [NASA-TT-F-15301] 02 p0047 N74-15757 | investigation |
| OXIDATION Oxidation of carbon monoxide in diluted combustion | [AD-774274] 02 p0081 N74-20710 PROSPHORIC ACID |
| products at engine idling conditions | Matrices for H3PO4 fuel cells |
| 92 p0041 A74-25221 | [AD-766312] 01 p0010 N74-10086 |
| | |

PHOTOELECTRIC CELLS The optimization of silicon photocell operated in conjunction with solar radiation concentrators 02 p0037 174-24906 Inversion layer solar cell fabrication and evaluation -- measurement of response of inversion layer solar cell to light of different wavelengths
[NASA-CR-136932] 02 p0060 N74-16807 PHOTOBLECTRIC BPPBCT Possibilities of the thin solar battery
applications for the terrestrial use units
02 p0038 174-24912 Partial results concerning CdS solar cells 02 p0038 A74-24914 PROTORLECTRIC GENERATORS Photo-electric generators --- solar converters for spacecraft and terrestrial power supplies 02 p0036 174-23842 Photoelectric power engineering --- applications to solar batteries and converters 02 p0039 A74-24936 Photoelectric converters based on various CdS heterofunctions 02 p0042 A74-27752 ERTS-1 imagery use in reconnaissance prospecting:
Evaluation of the commercial utility of ERTS-1
imagery in structural reconnaissance for
minerals and petroleum --- interpretation of
Colorado region [274-10007] 01 p0013 N74-11148 Petroleum exploration subprogram: Geological interpretation of proportional imagery from Geological ERTS-A: satellite 01 p0028 N74-15020 [E74-10213] 01 p0028 N74-151 011 exploration subprogram geological interpretation of images provided by the ZRTS-A satellite --- Bolivia [NASA-TT-F-15265] 01 p0028 N74-15 01 00028 874-15070 PHOTOINTERPRETATION Petroleum exploration subprogram: Geological interpretation of proportional imagery from ERTS-A satellite 01 p0028 N74-15020 [B74-10213] Oil exploration subprogram geological interpretation of images provided by the ERTS-A satellite --- Bolivia 01 p0028 N74-15070 [NASA-TI-P-15265] PHOTOLUMINESCENCE Quantification of the luminescence intensity of natural materials 01 p0005 A74-14892 Investigation of silicon photoelectric cells as precision photodetectors --- electro-optical properties of silicon solar cells [NRC-TT-1686] 01 p0010 N74-01 p0010 N74-10199 PROTOSENSITIVITI Photosensitive elements for solar sensors 01 p0005 174-17296 Inversion layer solar cell fabrication and evaluation --- neasurement of response of inversion layer solar cell to light of different wavelengths 02 p0060 N74-16807 [NASA-CR-136932] PHOTOSTETHESIS Solar energy by photosynthesis --- technological conversion systems modeled on photosynthesis 02 p0042 174-27322 PHOTOVOLTAGES The optimization of silicon photocell operated in conjunction with solar radiation concentrators 02 p0037 a74-24906 PHOTOVOLTAIC CRLLS Photovoltaic couer and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, France, July 2-6, 1973, Proceedings 02 p0037 &74-24901 Results and future prospects on photovoltaic power development in France 02 p0037 174-24904 Low-cost silicon solar cells for terrestrial applications 02 p0038 174-24909

The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 174-24911 Optical coatings for semiconductor photovoltaic converters and solar energy concentrators 02 p0039 174-24924 Investigation of photovoltaic applications --- for solar energy conversion 02 p0040 A74-24939 Trapping of solar energy at Bamako with the aid of a silicon solar cell panel 02 00041 174-25481 PROTOVOLTAIC CONVERSION Prospects of energy conversion and storage derived from space systems technology 02 p0033 A74-19485 The ESTEC technology programme in solar energy conversion 02 p0037 A74-24902 Terrestrial utilization of CdS-Cu25 solar photocells in the south of France 02 p0038 174-24915 Photoelectric power engineering --- applications to solar batteries and converters 02 p0039 A74-24936 Space solar power --- satellite-horne generators for earth consumption 02 p0040 A74-24942 Transmission and storage of hydrogen Performance characteristics of a pneumatic tube transportation system --- for interurban mass transit 02 p0072 N74-18888 DISTON REGIERS A simplified life-cycle cost comparison of various engines for small helicopter use
[NASA-TH-X-71517] 02 p0074 x74-1946 02 p0074 N74-19405 PLANTS (BOTANY)
Peat O1 p0029 N74-15261
Clean fuels from biomass --- feasibility of
converting plant systems to fuels
[NASA-TM-X-71538]
O2 n0077 ---ISMA RELETING PLASMA HEATING Heating of a substance by an arc plasma 01 p0001 A74-10463 Loss mechanisms in an MHD generator --- Book on argon plasma nonequilibrium Faraday generator efficiency 02 p0033 A74-19455 PLASHA PHISICS Relaxation phenomena in an MHD generator with pre-ionizer --- Book 02 p0033 A74-19454 Significant research results for 1971, High
Temperature Institute, USSR Academy of Sciences
--- plasma physics and gas dynamics
[Ab-765753] 01 p0012 x74-100 01 p0012 N74-1089B PLASEA TEMPERATURE Characteristics of a nonequilibrium MHD generator 01 p0005 174-17439 PLASMA TURBULENCE Optimization of the power of Faraday HHD generators operating on nonequilibrium plasma 01 p0003 174-13943 PLASMA-BLECTBOHAGNETIC INTERACTION
High voltage solar array experiments
[MASA-CR-121280] 02 02 p0063 N74-17788 NINUE Substitute catalysts for platinum in automobile emission control devices and petroleum refining 01 p0018 N74-11941 PERUNITIC EQUIPMENT Turbo-actuators turn flow into mechanical output
--- power conversion for missile control or
pneumatic systems 02 p0041 A74-27136 Performance characteristics of a pneumatic tube transportation system --- for interurban mass transit 02 p0072 N74-18888

| POLICIES | PRESSURE REDUCTION |
|---|---|
| Compendium of university forums of the National | Chemical storage of bydrogen in Wi/H2 cells |
| Commission on Materials Policy, May - June 1972. | 01 p0004 &74-14248 |
| A background document. NCMP forum on Technological Innovation in the Production and | PRIMARY BATTERIES |
| Utilization of Materials at Pennsylvania State | Power sources 4: Research and development in |
| University, on 19-21 June 1972 | non-mechanical electrical power sources; Proceedings of the Eighth International |
| [PB-223679/2GA] 01 p0025 H74-14251 | Symposium, Brighton, Sussex, England, September |
| The evolution and dynamics of national goals in | 24-26, 1972 |
| the United States | 02 p0034 474-20627 |
| 02 p0053 N74+16666 | PRODUCT DRUBLOPHRUT |
| POLITICS | Economic comparison of two solar/hydrogen concepts |
| Petroleum: A prediction made in 1950 | [SIA-73-900] 02 p0060 N74-16810 |
| [P-5135] 02 p0065 N74-18194 POLLUTION | Determining the effects of gasoline price on use |
| Interdisciplinary applications and interpretations | of metals in automobile manufacture [BE-RI-7871] 02 p0062 N74-17666 |
| of EMTS data within the Susquehanna River Basin | [BM-RI-7871] 02 p0062 N74-17666 PRODUCTION ENGINEERING |
| (resource inventory, land use, and pollution) | Pabrication and testing of negative-limited sealed |
| [B74-10061] 01 p0013 N74-11182 | nickel-cadmium cells |
| POLICTION CONTROL | [NASA-CR-135981] 01 p0009 #74-10078 |
| Transportation controls under the Clean Air Act | The history of technology and engineering solutions |
| Congressional investigation of effects of | computerized data retrieval for coal mine |
| clean air policy on transportation [GPO-20-345] 02 p0082 N74-21625 | planning |
| POLYHBRIC PILMS | The 1.5-kW fuel cell powerplant |
| Properties of solid polymer electrolyte | [AD-767302] 01 p0022 N74-12744 |
| fluorocarbon film used in hydrogen/oxygen | The production of liquid hydrogen at the Rocket |
| fuel cells | Propulsion Establishment |
| [NASA-TN-D-7482] 01 p0011 N74-10547 | [RPE-TR-71/17] 02 p0061 N74-16996 |
| PONDS | PRODUCTION PLANNING |
| Solar ponds extended (UCID-16317) 01 p0023 N74-13537 | The history of technology and engineering solutions |
| POTASSIUM | computerized data retrieval for coal mine |
| Characteristics of a nonequilibrium HHD generator | planning 01 p0016 H74-11760 |
| 01 p0005 174-17439 | Porecasting of technological progress for |
| POWER CONDITIONING | long-range planning of mining operations at coal |
| Power conditioning system for FAA Air Route | mines prediction analysis technique for |
| Traffic Control Centers | operational development |
| 01 p0004 A74-14133 Power conditioning system for FAA air route | 01 p0016 N74-11765 |
| traffic control centers | MASA presentation wind energy conversion systems planning |
| 01 p0019 N74-12636 | 02 p0060 N74-16799 |
| PORRE EFFICIENCY | PROMETHIUM ISOTOPES |
| Optimization of the power of Paraday MHD generators operating on nobeguilibrium plasma | Si-Au Schottky barrier nuclear battery for |
| 01 p0003 A74-13943 | medical applications [TID=26342] 01 b0017 N74-11851 |
| Reduction of TACY power requirements by | [TID-26342] 01 p0017 N74-11851 PROPELLER BLADES |
| multiple-stage air cushions | The use of paper honeycomb for prototype blade |
| 02 p0043 174-27842 | construction for small to medium-sized wind |
| The effect of aerodynamic parameters on power output of windmills | driven generators |
| 02 p0056 N74-16773 | PROPULSION SYSTEM COMPIGURATIONS 02 p0056 h74-16770 |
| POURR PLANTS | The Dolphin airship with undulating propulsion |
| The 1.5-kW fuel cell powerplant | system - A new form of the evaluation factor |
| [AD-767302] 01 p0022 N74-12744 | 02 p0035 A74-22272 |
| A methodology for projecting the electrical energy demand of the commercial sector in California | Section 4: Propulsion and energy |
| [R-1106-NSP/CSRA] 02 p0054 N74-16679 | 01 p0026 N74-14671 |
| Bearings for power station plant. A selective | By-pass engines characteristics of USSR aircraft engines for jet aircraft |
| blbliography, 1960 - September 1973 | [AD-772723] 02 p0074 N74-19413 |
| [CE-BIB-28B.1] 02 p0073 974-19113 | The influence of individual components and of |
| POWER SUPPLIES | their mechanical arrangement on the stationary |
| Recent developments in the field of thermionic | operating behaviour of dual cycle propulsion |
| power conversion and its possible effects on power supply systems in space and on earth | engines |
| [DGLR PAPER 73-092] 01 p0005 174-17195 | 02 p0079 N74-20444 |
| Study of fuel cell system for powered balloon | Problem of the application of turbofan engines in air transport. Methods of increase in |
| reusable powerplants | efficiency of turbofan engine with high bypass |
| [AD-766253] 01 p0009 N74-10083 | ratios |
| The WASA-Lewis terrestrial photovoltaics program | [AD-773292] 02 p0079 N74-20453 |
| [BASA-TH-X-71491] 01 p0028 N74-14788 | PROPULSION SYSTEM PERFORMANCE |
| Sodium: Clean-energy storage medium for vehicular | Onboard energy sources and propulsion systems for balloons |
| power | [OHERA, TP NO. 1311] 02 p0037 a74-24313 |
| [LA-5406-MS] 02 p0065 N74-17871 | Complete mechanical energy utilization in |
| POWER TRANSMISSION Satellite Ducler power stations as an income | aeronautical propulsion systems |
| Satellite nuclear power station: An engineering analysis Book | 02 p0042 £74-27611 |
| 01 p0002 \$74-1323a | Investigation in energy transfer and energy |
| PREDICTION ANALYSIS TECHNIQUES | conversion for advanced power and propulsion Systems |
| Sanergy: Ab energy management model of the united | [AD-771581] 02 p0067 N74-18417 |
| States for the prediction of energy demand. | a simplified life-cycle cost comparison of various |
| resource consumption, environmental effects, the assessment of new technology, and energy | engines for small helicopter use |
| resource alternatives | [NASA-TH-K-71517] 02 p0074 N74-19405 |
| 01 p0036 W70-18665 | PROPULSIVE EMPICIENCY Performance and noise aspects of supersonic |
| Energy in the near term prediction analysis | transport |
| techniques for energy consumption and employment | 01 p0003 A74-13798 |
| 02 p0079 x74-20617 | ¥ 10 10 10 10 10 10 10 10 10 10 10 10 10 |

02 p0042 A74-27611

RAMJET ENGINES

Complete mechanical energy utilization in aeronautical propulsion systems

Energy problems in air transportation --- options for demand reduction, efficiency increase and fuel alternatives 02 D0033 A74-19479 The Dolphin airship with undulating propulsion system - A new form of the evaluation factor -02 p0035 174-22272 Complete mechanical energy utilization in aeronautical propulsion systems 02 00042 474-27611 PROTECTIVE CONTINGS Present state of the art in conductive coating technology 01 p0006 &74-17654 Optical coatings for semiconductor photovoltaic converters and solar energy concentrators 02 p0039 A74-24924 PREFECTOR Purification of fuel oils by centrifugal force
02 p0034 174-20216 QUALITATIVE ANALYSIS Qualitative analysis of the efficiency of MHD energy conversion 01 50003 474-13944 QUALITY CONTROL Clean, bright, and dry --- jet engine fuel contamination control 02 p0034 A74-20213 R RADIART PLUX DEESITY Theoretical performance of cylindrical parabolic solar concentrators 01 p0001 A74-10026 Solar heat utilization in residential heating systems 01 p0019 N74-12664 RADIATION PRESSURE reffect of the sun, the moon and solar radiation pressure on a near-equatorial synchronous satellite 01 p0003 174-13559 RADIO ASTRONOMY EXPLORER SATELLITE The RAE lightweight solar array --- design and development for Radio Astronomy Explorer satellite 02 p0039 A74-24921 DARTO BEACONS Wind-power supply for the decimeter range directional radio site at Schoeneberg (Eifel) and the experience gained [NASA-TT-F-15337] 02 p0048 N74-15768 RADIO RELAY SYSTEMS Regional and global energy transfer via passive power relay satellites 01 p0805 A74-16116 RADIOACTIVE ISOTOPES Isotope kilowatt program 01 p0025 N74-14377 [ORNL-TH-4243] BADIOACTIVE WASTES Summary of the study of disposal of nuclear waste into space 01 p0005 A74-16123 Peasibility of space disposal of radioactive nuclear waste. 1: Elecutive summary [NASA-TH-I-2911] 01 p0
Energy demand in Japan, 1975 to 1985 01 p0025 #74-14533 02 p0069 N74-18600 High energy radiography - A new technique in the development of efficiency and integrity in aero cas-turbine engines 02 p0035 A74-21316 RADIOISOTOPE BATTERIES Solar vs. nuclear power - Is there a choice --for earth satellite power systems [AIAA PAPER 74-489] RAIL TRANSPORTATION Energy trends and their future effects upon transportation --- applied to rail, truck, and air cargo operations and private energy uses
[P-5046] 01 p0017 874~11791 [P-5046]

DARKING CYCLR Vapor generator feed pump for Hankine cycle vapol generator lees pump for mankine cycle
automotive propulsion system (Chandler Evans)
[PB-222849/2]
01 p0011 N74-10747
BAPID TRABSIT SYSTEMS Reduction of TACY power requirements by multiple-stage air cushions 02 p0043 A74-27842 EPA pollution regulations and fuel shortage: The impact on mass transit 01 p0027 N74-14690 Performance characteristics of a pneumatic tube transportation system --- for interurban mass 02 p0072 N74-18888 Magnetic suspension and guidance of high speed vehicles --- feasibility and cost effectiveness 02 p0072 874-18892 (CTS-2] REACTION KINETICS bffect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels 02 p0036 A74-23221 BRACTOR CORES Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NISA-TH-X-2996] 02 p0078 M 02 p0078 N74-20238 REACTOR DESIGN Development concept for a small, split-core, heat-pipe-cooled nuclear reactor 02 p0078 N74-20238 [HASA-TH-1-2996] REACTOR TECHNOLOGY Assessment of lightweight mobile nuclear power systems 01 p0006 A74-17813
Nuclear Science Symposium, 20th, and Nuclear Power
Systems Symposium, 5th, San Prancisco, Calif.,
November 14-16, 1973, Proceedings
02 p0041 A74-25901 DECTABATION Applicability of Skylab remote sensing for detection and annitoring of surface mining activities --- Ohio, West Virginia, and Waste lubricating oil research: An investigation of several re-refining methods [BB-RI-7884] Pennsylvania [274-10160] REFINING The refining of turbine fuels by modern hydrotreating [AIAA PAPER 74-162] 01 p00 01 p0006 A74-18798 Supersonic fuels from medium oils produced by the thermal cracking of crude oil residues [DFVLR-SONDDR-301] 01 p0006 A74-189 01 p0006 A74-18925 Atmospheric emissions from the petroleum refining [PB-225040/5GA] 02 p0066 x74-18305 Air pollution aspects of emission sources Petroleum refineries; a bibliography with abstracts 02 p0073 N74-1922B [AP-110] Waste lubricating oil research: An investigation of several re-refining methods 02 p0078 N74~20069 (BM-RI-7884) PRPRIGRRATORS Application and durability of solar absorber coatings --- thermal power source for spaceborne cryogenic refrigerators
[AD-769449] 02 p0049 N74-16264 REGULATIONS National energy policy 01 p0021 N74-12681 Final environmental statement for the geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations 02 p0078 M74-19977 PELATATION TIME Relaxation phenomena in an KHD generator with pre-ionizer --- Book 02 p0033 174-19454 RELIABILITY ENGINEERING Power conditioning system for FAA Air Route Traffic Control Centers 01 p0004 A74-14133

New technology for CdS-Cu2S solar cells of high 02 p0038 &74-24910 Power source quality --- consequence and cures of source deficiencies in quality of ac electric power service 01 p0019 N74-12635 RESOTE REGIONS Wind utilization in remote regions: An economic study --- for comparison with diesel engines 02 p0058 #74-16790 Quantification of the luminescence intensity of natural materials 01 p0005 A74-14892 The use of the pressurized balloom for detecting energy resources Applicability of Skylab remote sensing for detection and monitoring of surface mining activities --- Ohio, West Virginia, and Pennsylvania [E74-10160] [E74-10160] 01 p0024 N74-14028 Research on the application of satellite remote sensing to local, state, regional, and national programs involved with resource management and environmental quality
[NASL-CB-136472]

01 p0024 R74-74 01 p0024 #74-14093 RESCUE OPERATIONS Relicopter applications at sea 02 p0034 A74-19690 RESEARCH AND DRYRLOPHENT Evolution of studies in the field of gas lasers 01 p0005 174-16909 Does research in the field of aeronautics have a fature --- emphasis on aircraft design refinements and cost reduction Energy E and D inventory data base. Bibliography, 1973 01 p0017 x74-11849 The Pederal Government and energy: R and D historical background 01 p0021 N74-12687 Energy research and development, 2 01 p0027 N74-14692 MSF presentation --- summary on energy conversion research program 02 p0059 \$74-16798 Solar energy evaluation group report [ANL-8045] 02 p0061 174-17527 Introductory remarks --- international cooperation in energy sources development 02 p0068 N74-18583 Major R6D programs to neet the energy crisis ---solar energy, nuclear fusion, and hydrogen-based power supplies 02 p0069 N74-18602 Controlled fusion research Atomic Energy Commission 1 December 1973 report on energy research and development Proceedings of Workshop on Navy Alternate Energy
Sources Research and Development
[AD-773746]
EESBACE FACILITIES
[Index:100]
[AD-773746] University energy research centers 01 p0019 N74-12668 an inventory of energy research, volume 2 01 p0021 \$74~12689 RESEARCH PROJECTS Actual state of French technical developments concerning sources of space power 01 p0002 A74-12794 Baergy research and development: an overview of our national effort 01 p0016 N74-11788 An inventory of energy research, volume 1 01 p0021 N74-12688 An inventory of energy research, volume 2 01 p0021 N74-12689 Energy policy research and the State of Florida [P-5078] 01 p0026 R74-Conservation and efficient use of energy, part 1 01 p0030 N74-15682 01 p0026 N74~14684

NASA authorization for fiscal year 1975, part 1 --- Congressional bearings on funding of NASA 02 p0082 874-21605 RESERVES Review of world energy supplies --- reserves and resources of fessil and fissile fuels
[IGU/A-1-73] 01 p0026 #74-14 01 p0026 #74-14666 RESOURCE ALLOCATION SOURCE ALLOCATION

Energy alternatives for California: The current crisis. 1: The impact of hrab oil export policies on the California energy system

[P-5146]

02 p0080 874-20621 RESOURCES MANAGEMENT Relevance of BRTS to the State of Ohio --management and planning of state resources [E74-10024] 01 p0013 874-11159 [E74-10024] 01 p0013 E74-11159
Interdisciplinary applications and interpretations of ENTS data within the Susquehanna Elver Basin (resource inventory, land use, and pollution)
[E74-10061] 01 p0013 E74-11182
Satellite geological and geophysical remote sensing of Iceland
[E74-10073] 01 p0014 E74-11188 [E74-10073] 01 p0014 #74-11188
Applications of meteorology to natural resource
planning --- agriculture, forestry, energy, and recreation 01 p0014 #74-11395 The Federal Government and energy: R and D historical background 01 p0021 N74-12687 Energy research and development: A selected reading list [ORNL-RIS-73-65-REV-1] [ORNL-RIS-73-65-REV-1] 01 p0022 N74-12695 Research on the application of satellite remote sensing to local, state, regional, and national programs involved with resource management and environmental quality [WASA-CR-136472] [WASA-CR-136472] 01 p0024 N74-14093 Bitumen-bearing rocks --- as potential energy Sources 01 p0028 #74-15226 01 p0028 N74-15230 Geothermal resources --- exploitation for energy applications 01 p0028 H74-15240 Nuclear fuels: Uranium 01 p0028 #74-15257 Fuclear fuels: Thorium 01 p0029 x74-15258 Oil and cas 01 p0029 #74-15259 01 p0029 874-15261 assessment of geothernal energy resources Pactors affecting the use of coal in present and future energy makers --- background paper for congressional investigation of earth resources and energy policies 01 p0031 874-15684 Long run cost trends: Persian Gulf and United States 02 p0052 N74-16655 Balancing the supply and demand for natural gas 02 p0052 H74-16657 Balancing the demand and supply of other energy O2 p0052 #74-16660

Federal Energy Organization: A staff analysis
O2 p0053 #74-16669

An energy ethic --- socioeconomic ethics of energy
source development 02 p0069 R74~18593 Environmental issues and institutional arrangements --- economic and environmental aspects of energy Environmental issues, an overview --- of energy source exploitation 02 p0069 874-18597 Symposium on Energy, Resources and the Environment. Volume 3: Session on Options for the Future and their Resources, Economic, and the Future and them. Some Environmental Effects
[N72-69-VOL-3-RBV-1]
Natural gas supply in the decade of the seventies
02 p0074 N74-19586

| Natural gas availability: Present and future 02 p0075 x74-19587 | Study of application of ZETS-A imagery to fracture-related mine safety hazards in the coal |
|---|---|
| Energy resources of the United States CCIRC-6501 02 p0075 H74-19614 | mining industry [E74-10336] 02 p0065 x74-180 |
| Council on Energy Policy O2 p0075 N74-19617 | SAILWINGS An introduction to the Princeton Sailwing Windmill |
| Meeting California's energy requirements, 1975-2000 | 02 p0056 N74-167 The sail wing windmill and its adaptation for use |
| 02 p0076 H74-19629 National energy policy for meeting US energy | in rural India 02 p0056 g74-167 |
| requirements 02 p0079 E74-20613 | Wind machines aerodynamics of sailwing whicle 02 p0055 %74-167 |
| The gasoline and fuel oil shortage congressional hearing to determine causes and | SATELLITE ATTITUDE CONTROL Technological problems with large-area solar call |
| corrective actions for fuel shortage problem | arrays |
| DEFECTOR BURNES | [DGLE PAPER 73-107] 01 p0005 £74-172 SATELLITE DESIGN |
| Quarterly bulletin of the Division of Mechanical Engineering and the National Meronautical | Satellite solar power stations to meet inture |
| Establishment, 1 July - 30 September 1973 reports on reynolds number effects, energy in | energy demands 01 pouch 174-110 |
| transportation, and wave buoy accelerometer | Technological problems with large-area solar cell |
| [DRE/NAE-1973(3)] 01 p0023 H74-13673 RIGID BOTORS | [DGLE PAPER 73-107] 01 p0005 4/4-1/4 |
| Rotor dynamic considerations for large wind power | SATELLITE PERTURBATION Effect of the sun, the moon and solar radiation |
| generator systems 02 p0056 H74-16772 | pressure on a near-equatorial synchronous |
| French wind generator systems as auxiliary power sources for electrical networks | 01 p0003 A74-135 |
| 02 p0035 R74-10733 | SATELLITE POWER TRANSMISSION (TO EARTH) Use of Shuttle in establishing large space |
| ROCKET ENGINES Complete mechanical energy utilization in | installations 01 p0004 174-14 |
| aeronautical propulsion systems 02 p0042 A74-27611 | Regional and global energy transfer via passive |
| ROTARY WIRGS Antenna towers as wind tower generation plants | power relay satellites 01 p0005 a74-16 |
| , ruses_mm_b_153041. UZ DUU4/ N/4-10/00 | Space solar power satellite-borne generators for earth consumption |
| The Oregon State University wind studies economic feasibility of windpowered generators | 02 p0040 1/4~24 |
| 02 p0059 H74-16792 Dynamic model wind tunnel tests of a | Solar cell development in the Federal republic of |
| <pre>variable-diameter, telescoping-blade rotor system (TRAC rotor)</pre> | Germany 02 p0037 174-24 |
| [AD-771037] 02 p0061 N74-17764 | Description and interpretation of the results observed concerning the technological solar cel |
| BOTATING GRUEBATORS An electrical generator with a variable speed | satellite 02 p0035 174-24 |
| input: Constant frequency output 02 p0057 F74-16778 | Space solar power satellite-borne generators for earth consumption |
| ROTOR ARRODYNAMICS Rotor dynamic considerations for large wind power | 02 p0040 174-24 |
| generator systems 02 p0056 N74-16772 | Solar ws. nuclear power - Is there a choice for earth satellite power systems |
| POWOR SPERD | (ATAL PAPER 74-489) 02 p0043 A74-27 SATELLITE SOLAR POWER STATIONS |
| Influence of wind frequency on rotational speed adjustments of windmill generators | Satellite solar power stations to meet ruture |
| [MASA-TT-F-15184] 01 p0012 N74-10948 Bucket rotor wind-driven generator | energy demands .01 p0001 174-11 |
| 02 pu03/ #/4- (61/0 | The use of the Space Shuttle to support large space power generation systems |
| Translations on Eastern Burope Scientific Affairs, | 01 p0003 A74-14 Solar power for our mation |
| no. 383 Romanian research on their | 01 p0004 1/4-14 |
| digital processing and transmission of information | Space solar power satellite-borne generators for earth consumption |
| [JPRS-61101] 02 publs 474-1761 Role of thermoenergetic research in saving fuel 02 p0062 #74-17663 | 02 p0040 174-24 Peasibility study of a satellite solar power state |
| ones teriq | [NISI-CR-2357] 02 p0063 N74-17 SATELLITE-BORNE INSTRUMENTS |
| The sail wing windmill and its adaptation for use | Current European developments in solar paidle dri |
| 02 p0056 M74-16771 Lines of development of rural wind power plants | SCHOTTKI DIODES |
| [HASA-TT-F-15513] 02 p0081 H74-20701 | Schottky-barrier solar-cell calculations 02 p0035 \A74-2 |
| ROBAL LAND USE Final environmental statement for the geothermal | Optical properties of thin gold films applied to |
| leasing program. Yolume 2: Leasing of geothermal resources in three California areas | Schottky barrier solar cells [MASA-CR-137981] 02 p0076 R74-19 |
| 02 p0078 N74-19975 | SEA WATER Medium-capacity air motor pilot plant with |
| S | hydraulic energy accumulation by pumping [WASA-TT-F-15299] 02 p0046 N74-1 |
| A TRADIPA | SEDIMENTARY BOCKS |
| Lockheed S-31 Viking - With low fuel consumption over a wide power range the TP34-GE2 has high | Oil shale 01 p0029 \$74-1 |
| thrust to weight 02 p0036 A74-23839 | SENICOMDUCTING FILMS Present state of the art in conductive conting |
| ne many | technology 01 p0006 174-1 |
| Application of EREP imagery to fracture-related mine safety hazards and environmental problems | . Free Marie |
| in sining Indiana | |

02 p0049 N74-16019

[E74-10258]

```
02 00065 $74-18012
the Princeton sailwing windmill
02 p0056 N74-16769
| 11 and its adaptation for use
02 p0056 #74-16771
erodynamics of sailwing vehicles
02 p0059 #74-16797
ems with large-area solar cell
                 01 p0005 £74-17204
er stations to meet future
                 01 p0001 A74-11020
ems with large-area solar cell
                 01 00005 174-17204
the moon and solar radiation
r-equatorial synchronous
                  01 p0003 A74-13559
ISSION (TO ELETH)
stablishing large space
 01 p0004 274-14121
energy transfer via passive
lites
                 01 p0005 174-16116
-- satellite-borne generators
rt i on
                02 p0040 174-24942
 CONTRRSION
ent in the Federal Pepublic of
                  02 p0037 174-24903
erpretation of the results ing the technological solar cell
                  02 p0035 174-24929
-- satellite-borne generators
otion
                  02 p0040 174-24942
ower - Is there a choice ---
te power systems
                  02 p0043 174-27833
9)
STATIONS
er stations to meet future
                  01 00001 474-11020
ce Shuttle to support large
ration systems
                   01 p0003 174-14112
r nation
                   01 p0004 274-14465
--- satellite-borne generators
ption
                   02 p0040 174-24942
of a satellite solar power station 02 p0063 N74-17784
TERRETS
evelopments in solar paidle drives
01 p0014 R74-11672
olar-cell calculations
                   02 p0035 A74-21028
 of thin gold films applied to
 solar cells
                   02 p0076 $74-19698
r motor pilot plant with
accumulation by pumping
02 p0046 #74-15755
                   01 p0029 #74-15260
he art in conductive coating
                   01 p0006 174-17654
```

Description and interpretation of the results observed concerning the technological solar cell Solar energy conversion for spacecraft --- using single crystal silicon solar cells satellite 02 p0041 A74-26817 02 p0039 A74-24929 Investigation of silicon photoelectric cells as SEMICORDUCTOR DEVICES precision photodetectors --- electro-optical properties of silicon solar cells Optical coatings for semiconductor photovpltaic converters and solar energy concentrators FRC-TT-1686] 01 p0010 k74-10199 SILICON TRANSISTORS 02 p0039 174-24924 SEMICORDUCTOR JUNCTIONS Photosensitive elements for solar sensors Schottky-barrier solar-cell calculations 01 p0005 A74~17296 Photoelectric converters based on various Cds SILVER ZIEC BATTERIES
Construction of 850 and 4,000 ampere-hour
silver-zinc cells using inorganic separator heterojunctions 02 p0042 174-27752 [AD-771397] 02 p0064 N74-17798 A novel method of cooling semiconductor devices SINGLE CHYSTALS
Solar energy conversion for spacecraft --- using single crystal silicon solar cells A novel method of cooling semiconductor devices for power electronics
[BMFT-FBT-02] 01 p0015 R74-1173
SEMICOMDUCTORS (MATERIALS)
Photo-electric generators --- solar converters for spacecraft and terrestrial power supplies 01 p0015 N74-11739 02 p0041 174-26817 wind power research at Oregon State University --for selecting windpowered machinery sites
02 p0056 N74-16767
Wind data for wind driven plant --- site selection
for optimal performance 02 p0036 174-23842 SEPARATORS Impinging jet separators for liquid metal magnetohydrodynamic power cycles
[WASA-CR-136552]
Construction of 850 and 4,000 ampere-hour
silver-zinc cells using inorganic separator 01 p0027 N74-14785 02 p0056 N74-16768 SOCIAL PACTORS Aviation needs and public concerns --- civil aviation growth in Europe and environmental [AD-771397] 02 p0064 N74-17798 SERVICE LIFE control Sealed, rechargeable mickel-zinc cells 01 p0027 N74-14749 02 p0035 A74-20630 Computer simulation of world dynamics and implications for policy decisions --- social SERVOCONTROL Effect of dry friction on the response to a symmetric harmonic signal of an energy converter issues in energy policies 02 p0068 N74-18585 producing mechanical energy Economic basis for energy and resource use -energy policy considering social impact 02 p0034 A74-20067 SHALE OIL 02 p0068 N74-18586 Fracture of coal and oil shale for in situ Symposium on Energy, Resources and the Environment. Session on Ethics and Environmental Aspects of the Demand for and Use processing or remote removal: A proposal support document [SLA-73-946] of Energy, volume 2 --- socioeconomic aspects of energy resource development
[B72-69-VOL-2-REV-1] 02 p0068 X74-1859 02 p0073 874-19047 Energy program, 1972 [BE-IC-8612] 02 p0080 x74-20619 SHALES 02 p0068 x74-18591 National energy policies --- for development of Oil shale low cost energy 01 p0029 N74-15260 02 p0069 N74-18592 An energy ethic --- socioeconomic ethics of energy source development 1 problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 N78-19694 Issues involved in developing an environmental ethic --- socioeconomic factors in energy supply and SHOCK RESISTANCE Characteristics and applications of the solar furnaces of the Central Laboratory of Armanent 02 p0069 874-18594 02 p0034 A74-19559 Mechanisms for achieving cleaner power, prices, SHOCK WAVES regulations --- energy policy Investigation of a non-equilibrium ABD generator [AD-766493] SHORT TAKEOPF AIRCRAPT 02 p0069 N74-18596 01 p0013 N74-10950 The evolution and dynamics of national goals in Investigation of the relative merits of different the United States power plants for STOL-aircraft with blown flap application --- analysis of design requirements 02 p0053 N74-16666 application --- analysis of ussign requirements
for self-sustained gas supply systems
02 p0078 #74-20406
Engine cycle selection for commercial STOL aircraft
--- effect of aircraft requirements and SOLAR ARRAYS AK AKKAIS

High voltage solar cell power generating system

for regulated solar array development

[AIRA PAPER 73-1105] 01 p0002 A74-12242 The use of the Space Shuttle to support large operational characteristics on engine parameters 02 p0079 B74-20408 space power generation systems SHROUDED TURBINES 01 p0003 A74-14112 Advantages of the diffuser-augmented wind turbine 02 p0057 N74-16775 Technological problems with large-area solar cell arrays
[DGLR PAPER 73-107] 01 p0005 A74-17204 Present state of the art in conductive coating Si-Au Schottky barrier nuclear battery --- for medical applications [TID-26342] 01 p0017 N74 technology 01 p0006 a74-17654 Photovoltaic power and its applications in space and on earth; International Congress on the Sun in the Service of Man, Paris, Prance, July 2-6, 01 p0017 #74-11851 SILICON ALLOYS State of developments and research problem on the switching of silicon germanium alloy thermoelectric elements 1973, Proceedings [AD-765845] SILICON JUNCTIONS 02 p0037 474-24901 01 p0009 N74-10080 The ESTEC technology programme in solar energy The optimization of silicon photocell operated in conjunction with solar radiation concentrators conversion 02 p0037 174-24902 Results and future prospects on photovoltaic power 02 p0037 A74-24906 development in France Investigation of photovoltaic applications --- for 02 p0037 174-24904 solar energy conversion The RAE lightweight solar array -- design and development for Radio Astronomy Explorer satellite 02 p0039 174-24921 02 p0040 A74-24939 Current prospects for solar cells 02 p0040 A74-24943

```
Current delivered by the solar array of the D21-Tournesol satellite
                                           02 p0039 A74-24928
   The solar generator of the telecommunication
     satellite Symphonie
                                           02 p0039 174-24933
   Solar generators for sounding ballooms
                                          02 p0040 A74-24940
   Trapping of solar energy at Banako with the aid of
     a silicon solar cell panel
   02 p0041 174-25481
Solar energy conversion for spacecraft --- using
     single crystal silicon solar cells
   oly pood 1 A74-26817
Testing for thermal fatigue failures in solar arrays
        - space environment simulation in temperature
     cycling vacuum chamber
                                           01 p0010 N74-10240
   Method of making silicon solar cell array --- and
   mounting on flexible substrate
[MASA-CASE-LEW-11069-1] 01 p0027 N74-14784
The NASA-Lewis terrestrial photovoltaics program
     ne MASA-Lewis terrestrial protection of the station solar cell power system for weather station [NASA-TH-I-71491] 01 p0028 N74-14
                                           01 p0028 N74-14788
   High voltage solar array experiments
[NASA-CB-121280] 02
                                            02 p0063 N74-17788
SOLAR CRLLS
   Spacecraft electrical power --- solar cells and
      storage batteries
                                            01 p0002 A74-12201
   Vitreous oxide antireflection films in
      high-efficiency solar cells
                                            01 p0004 174-14250
   Photosensitive elements for solar sensors
                                            01 p0005 A74-17296
   Schottky-barrier solar-cell calculations
                                            02 p0035 A74-21028
    The BSTEC technology programme in solar energy
      conversion
                                            02 p0037 174-24902
    Solar cell development in the Federal Republic of
      Germany
                                            02 p0037 A74-24903
    Analysis and improvement of silicon solar cells
02 p0037 174-24905
    Technology and performance characteristics of integral diode solar cells
                                            02 p0038 174-24908
    Low-cost silicon solar cells for terrestrial
      applications
    02 p0038 174-24909
New technology for CdS-Cu2S solar cells of high
      reliability
    02 p0038 174-24910
The present potential of CdS solar cells as a
      te present potential of cds solar cells as a terrestrial power applications
                                            02 p0038 A74-24911
    possibilities of the thin solar battery
                                            l use units
02 p0038 174-24912
      applications for the terrestrial use
    Partial results concerning CdS solar cells
                                            02 p0038 A74-24914
    Terrestrial utilization of CdS-Cu2S solar
       photocells in the south of France
                                             02 p0038 274-24915
    On inhomogeneities of thin film solar cells
                                             02 p0039 A74-24918
    Optical coatings for semiconductor photovoltaic
       converters and solar energy concentrators
                                             02 p0039 A74-24924
    Description and interpretation of the results
       observed concerning the technological solar cell satellite
                                             02 p0039 174-24929
     Photoelectric power engineering --- applications to solar batteries and converters
                                             02 p0039 174-24936
     Direct energy conversion by means of solar cells
     02 p0040 174-24937
Investigation of photovoltaic applications --- for
       solar energy conversion
                                             02 p0040 A74~24939
     Current prospects for solar cells
                                             02 p0040 A74-24943
     Solar energy conversion for spacecraft --- using
```

single crystal silicon solar cells

02 p0041 174-26817

```
Investigation of silicon photoelectric cells as
          precision photodetectors --- electro-optical
          properties of silicon solar cells [NRC-TT-1686]
                                                                                  01 p0010 N74-10199
                                       Teflon in solar cell cover technology
      The use of PEP Teflon in solar cell cover technology (NASA-TB-I-71485)
The sultiple junction edge illuminated solar cell [NASA-TH-I-71476]
On p0012 874-109
                                                                                  01 p0012 874-10944
                                                                                  01 p0012 #74-10947
      Method of making silicon solar cell array --- and
          mounting on flexible substrate
          [NASA-CASE-LEW-11069-1]
                                                                                   01 p0027 874-14784
      The WASA-Lewis terrestrial photovoltaics program
          | RASA-Lears terrestrar | Proceedings | Procede | Proceedings | Proceedings | Procede | Proceedings | Procede | Pr
                                                                                   01 p0028 N74-14788
      Inversion layer solar cell fabrication and evaluation --- measurement of response of inversion layer solar cell to light of different
           wavelengths
                                                                                    02 p0060 N74-16807
           [ NASA-CR- 136932 ]
reasibility study of a satellite solar power station
[NASA-CR-2357] . 02 p0063 N74-17784
SOLAR COLLECTORS
      Theoretical performance of cylindrical parabolic solar concentrators
                                                                                   01 p0001 A74-10026
      The optimization of silicon photocell operated in conjunction with solar radiation concentrators
                                                                                   02 p0037 A74-24906
       Optical coatings for semiconductor photovoltaic converters and solar energy concentrators
                                                                                    02 p0039 174-24924
       Refurbishment of solar simulation optical train
            mirror assemblies
                                                                                    01 p0018 N74-12016
            [ NASA-CR-134123]
       Components for solar energy
                                                                                    01 p0020 N74-12678
       Solar heating and cooling buildings 01 p0020 N74-12679
       Calculations on a solar energy system --- for electric power and heat generation in buildings [LBL-1773] 01 p0023 N74-13
        roceedings of the Solar Heating and Cooling for Buildings Workshop. Part 1: Technical sessions, March 21 and 22 [PB-223536/RCL]
        Inversion layer solar cell fabrication and evaluation --- measurement of response of inversion layer solar cell to light of different
             wavelengths
                                                                                     02 p0060 N74-16807
            [NASA-CR-136932]
        New sources of power: Solar energy
                                                                                     02 p0063 K74-17790
        Solar concentrators of a novel design ---
            reflecting wall light channel structure [BFI-74-21] 02 p007
                                                                                      02 p0078 R74-19711
  SOLAR ENERGY
        Solar power for our mation
                                                                                      01 p0004 A74-14465
         Prospects of energy conversion and storage derived
             from space systems technology
                                                                                      02 p0033 174-19485
         pirect energy conversion by means of solar cells
02 p0040 174-24937
         Conclusions and recommendations of the United
             States Solar Energy Panel
                                                                                      02 p0040 A74-24941
         Solar energy to meet the nation's energy needs [NASA-TM-X-68290] 01 p0011 N74-10754
             [ NASA-TH-X-68290]
         Solar energy for the terrestrial generation of
              electricity
                                                                                      01 p0012 #74-10896
         Solar-energy for heating and cooling
01 p0016 N74-11787
         The U.S. energy problem. Volume 2: Appendices, part A --- to include alternate energy sources for fossil fuels
                                                                                       01 p0017 N74-11795
              [PB-207518]
          The U.S. energy problem. Volume 2: Appendices, part B --- to include development of alternate
              power sources to reduce fossil fuel consumption

PB-2075191 01 p0017 N74-11796
              [PB-207519]
          in assessment of solar energy as a national energy
          [NASA-CR-136191] 01 p0019 M74-12462
TERRASTAR: Terrestrial application of solar
technology and recover
               technology and research
[WASA-CR-129012]
                                                                                        01 p0020 N74-12674
          Energy consumption: Past, present, future
01 p0020 874-12675
```

| Components for solar energy | A problem statement: Ocean based |
|---|--|
| 01 p0020 N74-12678 Solar power generation and distribution | SOLar-to-bydrogen energy conversion macro system |
| Solar energy potential 01 p0021 N74-12680 | SOLAR FURNACES Characteristics and applications of the solar |
| Impacts of solar energy utilization | turnaces of the Central Laboratory of Armament |
| 01 p0021 N74-12683 Barket potential for solar beating and cooling in buildings | Solar-energy for heating and cooling |
| 01 p0021 N74-12684 Strategy for solar heating and cooling in buildings | SOLAR CEREMATORS Satellite solar power stations to meet future energy demands |
| 01 p0021 N74-12685 Solar ponds extended | 01 00001 874-1100 |
| [UCID-16317] 01 p0023 N74-13537 Solar energy power system using freen | Actual state of French technical developments concerning sources of space power |
| [NASA-CASE-MPS-21628-1] 01 p0025 N74-14496 Proceedings of the Solar Heating and Cooling for | O1 p0002 A74-1279 Technological problems with large-are_ solar cell |
| Buildings Workshop. Part 1: Technical sessions, March 21 and 22 | TOGLE PAPER 73-107] 01 p0005 A74-1720 |
| [PB-223536/4GA] 01 p0025 N74-14499 A new view of solar energy as comprehensive national energy policy | PROTO-electric generators solar converters for spacecraft and terrestrial power supplies 22 minds x28-2286 |
| 02 p0050 #74-16514 WSF presentation summary on energy conversion | Current delivered by the solar array of the D2A-Tournesol satellite |
| research program 02 p0059 N74-16798 NASA presentation wind energy conversion | 02 p0039 A74-24920 The solar generator of the telecommunication satellite Symphonie |
| systems planning 02 p0060 #74-16700 | 02 p0039 174-2493 Solar generators for sounding balloons |
| Economic comparison of two solar/hydrogen concepts [SLA-73-900] 02 p0060 N74-16810 | 02 p0040 A74-24940 Solar generator simulation for satellite projects |
| Solar energy evaluation group report [ANL-8045] 02 p0061 N74-17527 | analog models of volt-ampere characteristics |
| New sources of power: Solar energy 02 p0063 N74-17790 | Current European developments in solar paddle drives 01 p0014 874-11672 |
| Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar | Components for solar energy 01 p0020 N74-12678 Solar heating and cooling buildings |
| energy (NASA-CR-137242) 02 p0071 N74-18721 | 01 p0020 %74-12679 Solar power generation and distribution |
| B.R. 11864: Solar Heating and Cooling Demonstration Act of 1974. Background and | SOLAR HEATING 01 p0021 H74-12680 |
| legislative history 02 p0075 N74-19604 | Solar energy utilization by physical methods are |
| TERRASTAR: Terrestrial application of solar | including hydropower, windpower, direct solar heating and electric power 02 p0042 174-27323 |
| technology and research [NASA-CR-129012] 01 p0020 R74-12674 | solar energy to meet the nation's energy needs |
| application and durability of solar absorber coatings thermal power source for spaceborne | [MASA-TM-I-68290] 01 p0011 N74-10754 Solar-energy for heating and cooling |
| cryogenic refrigerators [AD-769449] 02 p0049 874-16264 | 01 p0016 N74-11787 An assessment of solar energy as a national energy |
| A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel | FRASA-CR-1361911 01 p0010 n7n-12052 |
| [NASA-CASE-MPS-22562-1] 02 p0076 N74-19700 CLAR ENERGY CONVERSION | Solar heat utilization in residential heating systems |
| The BSTBC technology programme in solar energy | 01 p0019 N74-12664 TERBASTAR: Terrestrial application of solar |
| 02 n0037 \$74-24002 | technology and research |
| The optimization of silicon photocell operated in conjunction with solar radiation concentrators | [NASA-CR-129012] 01 p0020 N74-12674 Solar heating and cooling buildings |
| Photoelectric power engineering are applications | 01 p0020 N74-12579 Solar power generation and distribution |
| to sold patteries and converters | Solar energy potential 01 p0021 w74-12680 |
| investigation of photovoltaic applications for solar energy conversion | 01 p0021 N74-12582 Barket potential for solar heating and cooling in buildings |
| Current prospects for solar cells | 01 p0021 N74-12684 Strategy for solar heating and cooling in buildings |
| 02 p0040 174-24943 Trapping of solar energy at Bamako with the aid of a silicon solar cell panel | Some results of testing of a solar water beating |
| Solar energy conversion for spacecraft scine | installation during the heating season [AD-754628] 02 p0048 #74-15777 |
| Single Crystal Silicon Solar Cells | Energy conservation with solar climate control solar heating and cooling of buildings |
| Solar energy by photosynthesis technological conversion systems modeled on photosynthesis | SOLAR RADIATION 02 p0050 N74-16513 |
| Solar energy utilization by physical methods | Effect of the sun, the moon and solar radiation pressure on a near-equatorial synchronous |
| including hydropower, windpower, direct solar heating and electric power | Satelite 8111197 F008n 10 |
| Photoelectric converters based on various CdS heterojunctions | [MASA-TH-I-68290] [Masa-Th-I-6 |
| Solar energy systems for generating | cryogenic refrigerators |
| electricity and producing-hydrogen fuels | [AD-769449] 02 p0049 N74-16264 |

| Solar concentrators of a novel design reflecting wall light channel structure regre-74-211 02 p0078 N74-19711 | Optical coatings for semiconductor photovoltaic converters and solar energy concentrators 02 p0039 A74-24924 |
|--|--|
| SOLAR PRELECTORS | Current delivered by the solar array of the D2A-Tournesol satellite |
| Ose of Shuttle in establishing large space | 02 90039 874-24320 |
| installations 01 p0004 174-14121 | The solar generator of the telecommunication satellite Symphonic |
| SOLAR SENSORS Photosensitive elements for solar Bensors 01 p0005 174-17296 | 5paceborne sources of electric power Russian |
| SOLAR SYMULATORS Refurbishment of solar simulation optical train | book 02 p0040 A74-24986 |
| mirror assemblies [mash-cm-134123] 01 p0018 N74-12016 | Solar generator simulation for satellite projects analog models of volt-ampere characteristics 02 p0041 A74-26324 |
| SOLID STATE DEVICES Solid state hydrogen gas generator rocket deployed balloons inflation | Solar energy conversion for spacecraft using single crystal silicon solar cells 02 p0041 A74-26817 |
| [AIAA PAPER 73-1232] 01 p0001 A74-1125/ Power conditioning system for FAA Air Route | Solar vs. nuclear power - Is there a choice |
| Traffic Control Centers 01 p0004 174-14133 | [AIAA PAPER 74-489] 02 P0043 A/4-2/033 |
| SPACE ENVIRONMENT SINGLATION High voltage solar array experiments | SPACECRAFT RADIATORS Development program for a liquid methane heat pipe 01 p0003 A74-14046 |
| [NASA-CE-121280] 02 p0063 N74-17788 SPACE ERECTABLE STRUCTURES | COLCRODIDE COTTO DISC |
| The RAE lightweight solar array design and development for Radio Astronomy Explorer satellite | Present state of the art in conductive coating technology 01 p0006 174-17654 |
| Q2 pQ039 K14-24321 | COLORDADE STARTITY |
| SPACE EXPLORATION NASA authorization for fiscal year 1975, part 1 Congressional hearings on funding of NASA | Photosensitive elements for solar sensors 01 p0005 174-17296 |
| programs 02 p0082 N74-21605 | SPARK IGHITION NAS report on technological feasibility of 1975-1976 notor vehicle emission standards. |
| SPACE PROGRAMS The second fifteen years in space; Proceedings of | Automotive spark ignition engine emission control systems to meet the requirements of the |
| the Eleventh Goddard Memorial Symposium, Washington, D.C., March 8, 9, 1973 | 1970 clean air amendments |
| 01 p0004 874-14403 | [FP-22404/304] |
| SPACE SHUTTLES The use of the Space Shuttle to support large space power generation systems | Wind power, part 2 - economic feasibility, 1949 [WASA-TT-F-15419] 02 p0063 N74-17792 STAINLESS STRELS |
| 01 p0003 A74-14112 Use of Shuttle in establishing large space installations | Method of forming a wick for a heat pipe [NASA-CASE-NPO-13391-1] 02 p0074 N74-19584 |
| 01 p0004 A74-14121 Summary of the study of disposal of nuclear waste | STANDARDS Trends in the mechanization of the coal industry and guarantee of patent-ability of designs that |
| Peasibility of space disposal of radioactive | are competitive on the world technological level computerized data retrieval system for development of hydraulic equipment |
| nuclear waste. 1: Executive Summary | |
| (NASA-TH-X-2911) NASA authorization for fiscal year 1975, part 1 Congressional hearings on funding of NASA | Classification of public lands valuable for geothermal steam and associated geothermal |
| programs 02 p0082 N74-21605 | resources [CIRC-647] 02 p0049 N74-16049 |
| SPACECRAPT BODULES Use of Shuttle in establishing large space | STATISTICAL ABALYSIS |
| installations 01 p0004 174-14127 | Fatural resources development and policies, including environmental considerations. |
| Chicagotem Doube SEDDLIES | Addendum: Changing patterns in the world energy |
| Spacecraft electrical power solar cells and storage batteries | situation [B/C.7/2/ADD.1] 02 p0070 N74-18609 |
| 01 p0002 A/4-12201 Width woltage solar cell power generating system | |
| for regulated solar array development [374] Bappe 73-11051 01 p0002 a74-12242 | STEAN Classification of public lands valuable for geothermal steam and associated geothermal |
| Actual state of French technical developments concerning sources of space power | resources [CIRC-647] 02 p0049 #74-16049 |
| On p0002 A74-12794 Energy supply and energy transformers in satellites and spacecraft | NASA Lewis H2-02 MHD program (NASA-TH-I-71520) 02 p0076 N74-19697 |
| 01 0000 B/4-18189 | |
| Prospects of energy conversion and storage derived from space systems technology | STORIGE BATTERIES Spacecraft electrical power solar cells and |
| 02 p0033 174-19485 Photo-electric generators solar converters for | storage batteries 01 p0002 A74-12201 |
| spacecraft and terrestrial power supplies 02 p0036 A74-23842 | Power sources 4: Research and development in non-mechanical electrical power sources; |
| Photovoltaic power and its applications in space and on earth; International Congress on the Sun | Proceedings of the Eighth International Symposium, Brighton, Sussex, England, September |
| in the Service of Man, Paris, France, July 2-6, 1973, Proceedings | 24-26, 1972 02 p0034 174-2062 |
| Results and future prospects on photovoltaic power | . Batteries for storage of wind-generated energy 02 p0058 #74-1678 |
| development in France 02 p0037 A74-24904 The RAB lightweight solar array design and | STRESS RELIEVING Rotor dynamic considerations for large wind power |
| The RAE lightweight solar array design and development for Radio Astronomy Explorer satellite 02 p0039 A74~20921 | generator systems 02 p0056 N74-1677 |

STRIP MINING

SUBJECT INDEX

| STRIP MINING | SOLPUR COMPOUNDS |
|---|--|
| Applicability of Skylab remote sensing for | Combustion of the cases methane. IP cas and |
| detection and monitoring of surface mining | ambonia in a mixing reactor air pollution |
| activities Ohio, West Virginia, and Pennsylvania | CONTROL GEVICE |
| [B74-10160] 01 p0024 k74-14028 | [FOA-1-C-1442-H3] 01 p0022 H74-12824 SULFUR OXIDES |
| Strip-wined watershed bydrologic data acquisition | Assessment of SO2 control alternatives and |
| study remote infrared aerial photography | implementation patterns for the electric utility |
| [PB-223558/8GA] 01 p0025 N74-14105 STRUCTURAL DESIGN | industry |
| Fabrication and testing of negative-limited sealed | [PB-224119/8GA] 02 p0050 N74-16339 SULPURIC ACID |
| nickel-cadmium cells | Present air pollution situation in Kawasaki city |
| [NASA-CR-135981] 01 p0009 N74-10078 | and future counterneasures |
| Importance and progress of wind power utilization in Denmark | [KS-27] 01 p0018 #74-12321 |
| [NASA-TT-F-15349] 02 p0046 N74-15754 | SUPERCONDUCTING MAGNETS Design options and tradeoffs in superconducting |
| Percy Thomas wind generator designs | magnetic energy storage with irreversible |
| 02 p0055 N74-16760 Technical options for energy conservation in | switching |
| buildings | [LA-UE-73-910] 02 p0074 h74-19375 SUPPRSOBIC AIRCRAPT |
| [NBS-TN-789] 02 p0071 n74-18724 | Aircraft symmetric flight optimization |
| Solar concentrators of a novel design | gradient techniques for supersonic aircraft |
| reflecting wall light channel structure [EFI-74-21] 02 p0078 N74-19711 | control |
| Design considerations for a | SUPERSORIC COMBUSTION 02 p0036 A74-23091 |
| 100-megajoule/500-megawatt superflywheel | Effect of finite chemical reaction rates on heat |
| [AD-774736] 02 p0081 H74-20709 STRUCTURAL DESIGE CRITERIA | transier to the walls of combustion-driven |
| Small wind-electrical installations for export | supersonic MHD generator channels |
| [NASA-TT-P-15350] 02 p0048 N74-15770 | SUPERSOURC COMBUSTION NAME THOUSES |
| A conment on towers for windmills structural | The jet engine design that can drastically reduce |
| and economic criteria 02 p0059 N74-16795 | oxides of nitrogen |
| Some extemporaneous comments on our experiences | [AIAA PAPER 74-160] 01 p0006 A74-18797 Emission calculations for a scramjet powered |
| with towers for wind generators | hypersonic transport |
| STRUCTURAL MEMBERS 02 p0059 N74-16796 | [NASA-TM-X-71454] 01 nonga w7u-12uas |
| Motion picture history of the erection and | Design considerations for the airfrage-integrated |
| operation of the Smith-Putnam wind generator | scramjet [NASA-TH-X-2095] 01 p0019 N74-17448 |
| 02 p0055 N74-16759 | SUPERSONIC TRANSPORTS |
| STRUCTURAL PROPERTIES (GEOLOGY), ERTS-1 imagery use in reconnaissance prospecting: | Performance and noise aspects of supersonic |
| Evaluation of the commercial utility of ERTS-1 | transport |
| imagery in structural reconnaissance for | Aviation fuels and lubricants 01 p0003 174-13798 |
| minerals and petroleum interpretation of Colorado region | 01 p0006 a74-18180 |
| [E74-10007] 01 p0013 H74-11148 | Hydrogen - Hake-sense fuel for an American supersonic transport |
| An evaluation of the suitability of ERTS data for | (AIAA PAPER 74-163) 02 p0033 A74-19353 |
| the purposes of petroleum exploration geological structures of Oklahoma | SURPACE DIPPUSION |
| [E74-10029] 01 p0018 N74-12119 | Investigation of energy conversion in rapidly |
| Application of ERTS-1 imagery to fracture related | cycling fuel cells, 1. A system for studying the surface diffusion of hydrogen on metals, 2 |
| nine safety hazards in the coal mining industry | 02 p0071 k74-18720 |
| [874-10238] 02 p0049 x74-16007 | SURFACE VEHICLES |
| Evaluation of the suitability of Skylah data for | Wind machines aerodynamics of sallwing vehicles 02 p0059 N74-16797 |
| the purpose of petroleum exploration | SUSQUEHANNA RIVER BASIN (ND-NY-PA) |
| Study of application of EHTS-A imagery to | Interdisciplinary applications and interpretations |
| fracture-related mine safety hazards in the coal | of ERTS data within the Susquehanna River Basin |
| saung industry | (resource inventory, land use, and pollution) [E74-10061] 01 p0013 N74-11182 |
| [E74-10336] 02 p0065 N74-18012 ERTS-1 imagery use in reconnaissance prospecting: | STEDEN |
| EVELUATION OF COmmercial utility of ppre-1 | Analysis of the possible use of wind power in |
| imagery in structural reconnaissance for | Sweden. Part 1: Wind power resources, theory of wind-power machines, preliminary model ! and |
| minerals and petroleum [E74-10345] 02 m0082 874-200mB | to an wind deterators |
| STRUCTURAL STABILITY | [NASA-TT-F-15441] 02 p0077 N74-19708 |
| The Oregon State University wind studios | STEPHORIE SATELLITES The solar generator of the telecommunication |
| economic reasibility of windpowered generators | satellite Symphonie |
| STRUCTURAL WEIGHT 02 p0059 N74-16792 | 02 p0039 x74~24933 |
| Lockheed S-3A Viking - Fith law fuel consumntion | STECHRONOUS BOTORS The synchronous EFD device |
| over a wide power range the TF34-GE2 has high thrust to weight | 01 00024 #74-13750 |
| 02 +0024 174-22420 | USING intro wind bower plants to directly dries |
| The REE lightweight solar array design and | synchronous generators in parallel operation |
| development for Radio Astronomy Explorer satellite | with a governing network [NASA-TT-F-15343] 02 p0048 N74-15765 |
| SUBASSEBBLIES 02 p0039 A74-24921 | Notion picture history of the erection and |
| Motion picture history of the erection and | operation of the Smith-Putnam wind generator |
| operation of the Smith-Putnam wind generator | STECHRONOUS SATELLITES 02 p0055 N74~16759 |
| SUBSORIC AIRCRAFT 02 p0055 N74-16759 | Satellite nuclear power station: An engineering |
| An initial step: A demonstration project | analysis Book |
| promoting subsonic, hydrogen-fueled mircraft | 01 p0002 a74-13234 |
| 01 p0016 174-11747 | Effect of the sun, the moon and solar radiation pressure on a near-equatorial synchronous |
| - | satellite |
| | 04 |

Assessment of lightweight mobile nuclear power

systems

Use of Shottle in establishing large space installations 01 p0004 A74-14121 Space solar power --- satellite-borne generators for earth consumption 02 -0080 374-24942 STWTTRTTC PURIS Clean fuels from biomass --- feasibility of converting plant systems to fuels
[NASA-TH-1-71538] 02 p0077 N74-19706
SYSTEM EPPECTIVENESS Airline airplanes for the eightles - A response --- emphasizing system efficiency and fuel savings 02 p0036 A74-23464 POWER SOURCE quality --- consequence and cures of source deficiencies in quality of ac electric power service 01 p0019 N74-12635 Characteristic lines (yearly permanent level lines) and characteristic wind variables for wind energy production --- design methods for electrical generators
[NASA-TT-F-15350]

Air power plants in Russia and the United States (from Dimitry Stein, Elektrizitaetswirtsch., volume 40, no. 16, 1941)
[NASA-TT-F-1538]

STRES BEGIERREIEG SYSTEMS ANALYSIS SYSTEMS REGISERRING BRD for power generation: The view of a chosen few [AD-760342] 01 p0025 N74-14408 Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [LA-UR-73-910] 02 D0074 N74-19375 TABLES (DATA) resources, consumption, and wastes

[LRP-63/73]

01 p0070 #74-103 Energy: 01 p0010 #74-10391 TANKER AIRCRAFT Experimental reel response system for high performance simplified aerial refueling store --- operational test of hose reel assembly and control system 02 p0064 #74-17799 [AD-771389] TABKER SHIPS The international aspects of importing natural gas 02 p0068 N74-18588 TRCHNOLOGICAL PORECASTING Evolution of studies in the field of gas lasers 01 p0005 A74-16909 Airports evolution and qualification 02 p0033 A74-19481 02 p0033 A74-19481
Airline airplanes for the eighties - A response
--- emphasizing system efficiency and fuel savings
02 p0036 A74-23464
The present potential of CdS solar cells as a future contender for photovoltaic space and terrestrial power applications 02 p0038 A74-24911 Conclusions and recommendations of the United States Solar Energy Panel 02 p0040 A74-24941
Does research in the field of aeronautics have a
future --- enphasis on aircraft design refinements and cost reduction 02 p0041 A74-25723 Porecasting of technological progress for precasting of technological progress for long-range planning of mining operations at coal mines --- prediction analysis technique for operational development 01 p0016 N74-11765 TECHNOLOGY ASSESSMENT The technology and economics of commercial airplane design. I 01 p0001 174-10144 Gas generators - A perspective --- alternative energy sources comparison
[AIAA PAPER 73-1168] 01 p0001 A74-11219 Thermoelectric generators --- radio relay station power supply application

01 p0002 a74-13448

01 p0006 A74-17813 The refining of turbine fuels by nodern hydrotreating
fataa paper 74-1621 01 p0006 A74-18798 Prospects of energy conversion and storage derived from space systems technology 02 p0033 174-19485 Photo-electric generators --- solar converters for spacecraft and terrestrial power supplies spacecrart and terrestrial power supplies 02 p0036 A74-23842 Solar cell development in the Federal Republic of Germany 02 p0037 174-24903 Technology and performance characteristics of integral diode solar cells 02 p0038 a74-24908 New technology for CdS-Cu25 solar cells of high reliability 02 p0038 A74-24910 Current prospects for solar cells 02 p0040 &74-24943 Spaceborne sources of electric power --- Russian 02 p0040 A74-24986 Nuclear eclectic power --- selective, assessment of plant and reactor types 02 p0041 A74-27320 Geothermal electricity production 02 p0042 174-27321 Solar vs. nuclear power - Is there a choice --for earth satellite power systems
[AIAA PAPER 74-489] 02 p0043 A74-02 p0043 A74-27833 wind energy --- assessment of windpowered generator technology
[NISA-TT-F-15342] 02 p0047 02 p0047 ¥74-15764 Energy-related research and development 02 p0070 N74-18605 The assessment of an air-supported and propelled urban transport system [CRANFIELD-CTS-1] 02 p0070 N74-18610 Quantitative energy studies and models: A state of the art review 02 p0070 N74-18623 TECHNOLOGI TRANSFER Industrial use of aerospace technology 01 p0002 A74-12905 Liquid metal magnetohydrodynamics (LUMHD) Volume technology transfer feasibility study. Leads-Cm-13019/] 01 p0023 N74-1.
Liquid metal magnetohydrodynamics (LMHBD)
technology transfer feasibility study. Volume
2: Appendixes 01 p0023 N74-13466 [NASA-CR-136198] TECHNOLOGY UTILIZATION 01 p0023 N74-13467 Industrial use of aerospace technology
01 p0002 A74-12905 The use of the Space Shuttle to support large space power generation systems 01 p0003 A74-14112 Technological problems with large-area solar cell arrays 01 p0005 174-17204 [DGLR PAPER 73-107] Geothermal resources --- exploitation for energy applications 01 p0028 N74-15240 The evolution and dynamics of national goals in the United States 02 p0053 N74-16666 TRFLOW (TRADEMARK)
The use of FEP Teflom in solar cell cover technology
[NASA-TH-X-71485]
01 p0012 N74-10944 01 p0012 N74-10944 TELECOMMUNICATION Translations on Eastern Europe Scientific Affairs, no. 383 --- Romanian research on fuel conservation with thermoenergetic equipment and digital processing and transmission of information [JPRS-61101] 02 p0062 N74-17661 TEMESSEE VALLET (AL-KY-TH)

Concentration by competing raw fuel industries in the energy market and its impact on small business. Volume 2: Tennessee Valley area [H-REPT-92-1313]

02 p0075 N74-19605 TEST FACILITIES

Computer program for thermodynamic analysis of open cycle multichaft power system with multiple reheat and intercool [MASA-TM-D-7589] 02 p0071 #74-1873 Installation of turbing-fuels research compustor laboratory --- tost facility for analyzing fuel problems in turbine engines 02 p0079 #74-18727 [AD-772945] 02 p0073 N74-18897 TERREODINANICS TRIAS Problem of the application of turbofan ongines in air transport. Bethods of increase in efficiency of turbofan ongine with high bypass Development of goothermal reservoirs from over-pressured areas beneath the Gulf coastal plain of Texas. I feasibility study of power production from overpressured reservoirs ratios [AD-773292] 02 p0079 874-20
THEREODLECTRIC GENERATORS
Thermoelectric generators --- radio rolay station
power supply application production from overpressured reservoirs
[3D-766855] O1 poins 874-12
BRTS-1 imagery use in reconnaisonce prospecting;
Evaluation of commercial utility of BRTS-1
imagery in structural reconnaisonne for
ainerals and petroleum 02 p0079 N74-20453 01 p0018 874-12183 Stato of devolopments and research problem on the switching of silicon germanium alloy thermoelectric elements [Ab-765845] 01 p0009 M74-10080 Possibility of commutating thermoelectric batteries with the aid of mercury amalgam [Ab-756088] 01 p0010 M74-10084 Thermal cycle and officency of a versatile power unit with a magnetohydrodynamic generator and thermoelectric generator 01 p0002 174-13448 -[874-10345] 02 p0082 N74-20948 TP-34 ENGINE Lockheed S-3A Yiking - With low fuel consumption over a wide power range the TF34-GE2 has high thrust to weight TERRELL CYCLING TESTS
Testing for thermal fatigue failures in solar arrays
--- opace environment simulation in temperature thermcolectric gonerator [JPRS-61359] TERREORLECTRIC BATRRIALS 02 p0071 N74-18723 01 p0010 #74-10240 THERETAIL REFREY Thermoelectric generators --- radio relay station power supply application Beating of a substance by an arc plasma Translations on Eastern Europa Scientific Affairs, no. 383 --- Romanian research on fuel conservation with thermoenergetic equipment and digital processing and transmission of information [DRS-61101] 01 p0002 A74-13448 TERRESORIECTRIC POURE GRUPPATION Therecolectric generators --- radio relay station power supply application 01 p0002 A74-13448 Role of thermoonorgetic research in saving fuel 02 p0062 N74-17663 THRESONDCLEAR POWER GREERATION Energy consumption: Past, present, future 01 p0020 R74-12675 THERMAL REACTORS THIR PILMS Exploratory development of a glass certaic automobile thermal reactor --- anti-pollution Possibilities of the thin solar battery applications for the terrestrial upo units devices O2 p0038 A74-24912
Partial regults concerning CdS molar cells [NASA-CR-134513] TERBEAL RESISTANCE 01 p0019 M74-12447 Design of high-temperature solid-electrolyte fuel-cell batteries for maximum power output per 02 p0038 174-24914 On inhomogeneities of thin file solar cells 02 p0039 274-24918 unit volume Description and interpretation of the results observed concerning the technological solar cell 02 p0036 174-22355 TERREAL SHOCK Characteristics and applications of the solar satellite furnaces of the Central Laboratory of Armanent 02 p0034 A74-19559 02 p0039 A74-20929. Application and durability of solar absorber coatings -- thermal power source for spaceborne cryogenic refrigerators [Ab-769449] 02 p0049 874-1626 THERBAL STABILITY Thermal-oxidative stability of automotive diesel fuels (AD-758146) 02 p0049 K74-16264 THORIUM · 02 p0049 N74-15817 Nuclear fuels: Thorius THERMIONIC CONVERTERS Thermionic energy conversion. Volume I - Processes and devices --- Book 01 p0029 N74-15258 THRUST BRASUREHENT Ockheed S-3A Viking - With low fuel consumption over a wide power range the TF34-GE2 has high thrust to weight 01 p0004 A74-14327 Recent developments in the field of thermionic power conversion and its possible effects on power supply systems in space and on earth [OGLR PAPER 73-092] 01 p0005 A74-Gas-heated 'heat pipe' vacuum furnace --- using 02 p0036 174-23839 THRUST VECTOR CONTROL 01 p0005 A74-17195 Turbo-actuators turn flow into mechanical output --- power conversion for missile control or thermionic energy conversion pneumatic systems 02 p0034 A74-19724 02 p0041 174-27136 Self-contained low power atomic plants --- for Converting nuclear energy into electrical power [AD-766969] 01 p0014 M74-11519 THYRISTORS A novel method of cooling semiconductor devices for power electronics [BMFT-FBT-02] Electric power generation system directly from 01 p0015 N74-11739 laser power
[NASA-CASE-HPO-13308-1]
THERMIONIC POWER GENERATION TIME SERIES ANALYSIS Energy statistics: A supplement to the summary of 02 p0077 N74-19702 national transportation statistics --- time series analysis of transported crude oils Recent developments in the field of thermionic power conversion and its possible effects on power supply systems in space and on earth [DelR PARER 73-092] 01 p0005 A74-[PB-225331/BGA] 02 p0070 N74-18633 TOWERS A comment on towers for windmills --- structural 01 p0005 A74-17195 Direct energy conversion methods [AD-770000] and economic criteria 02 p0059 N74-16795 02 p0061 x74-16816 Some extemporaneous comments on our experiences with towers for wind generators THERMOCOUPLES Possibility of commutating thermoelectric batteries with the aid of mercury amalgan [AD-756068] 01 p0010 874-10084 02 p0059 x74-16796 TRAJECTORY OPTIMIZATION Aircraft symmetric flight optimization ---THEREODYNASIC PROPERTIES gradient techniques for supersonic aircraft Aviation turbine fuels, 1972 control 01 p0014 N74-11592 02 p0036 A74-23091

| TRANSMISSION LINES | TURBOCOMPRESSORS |
|--|--|
| Myanced electrical pover deperation and | Vertical axis wind rotors: Status and potential energy conversion efficiency and derodynamic |
| Atet-thution concepts for military racilities | akerestaristics |
| [1D-765476] 02 p0061 H74-16819 | 02 p0057 H74-16774 |
| TRANSPORT LIRCRAFT | ldvantages of the diffuser-anguented wind turbine |
| Saission calculations for a sorabjet powered | 02 BOOS #14-10113 |
| hypersonic transport [NASA-TM-I-71464] 01 p0018 H74-12445 | Computer program for thermodynamic analysis of |
| Economics of air transport direct and indirect | Ober cacle marriager boast places arev mercials |
| COSTS | reheat and intercool rwss-rm-m-75891 02 p0071 274-18727 |
| rwidi-mm-p-142441 01 p0026 874-14682 | [NASA-TR-D-7569] 02 poort 8/4-18/2/ The influence of individual components and of |
| leronautical fuel conservation possibilities for | their mechanical arrangement on the stationary |
| advanced subsonic transports application of | operating behaviour of dual cycle propulsion |
| aeronautical technology for drag and weight | A7417A8 |
| reduction 02 p0080 N74-20654 | 02 p0079 H74-20444 |
| [HASA-TH-K-71927] 02 P0080 H74-20654 TRANSPORT THRICLES | TURBOFAN ENGINES |
| Reduction of TACV power requirements by | Lockheed S-31 Viking - With low fuel consumption |
| anitiple-stage air cushions | over a wide power range the TF34-GB2 has high |
| 02 p0043 A74=27842 | thrust to weight 02 p0036 174-23839 |
| Magnetic suspension and guidance of high speed | Astafan - A new concept from Turboneca |
| Aspicios iessipilità sud cost eriectiveness | constant apand ducted turbores engine |
| [CTS-2] 02 p0072 N74-18892 | 02 0003/ 1/4-2465/ |
| TRANSPORTATION Quarterly bulletin of the Division of Mechanical | Problem of the application of turbofan engines in |
| Engineering and the Mational Aeronautical | wir transport. Rethods OI increase in |
| Betablishment, 1 July - 30 September 1973 | efficiency of turbofan engine with high bypass |
| renorts on revnolds number dilects, dueldy in | ratios [ab-773292] 02 p0079 k74-20453 |
| transportation, and wave buoy accelerometer | [|
| [nut/1274 1973 / 3] U1 DUU23 N /4- 130 / 3 | TUBBOGENERATORS Investigation of chemical APU application for |
| Energy in transportation energy costs of | emall ground power sources |
| passenger and cargo transportation 01 p0023 N74-13675 | [AD_766724] 01 00009 N74-10084 |
| Transportation controls under the Clean Air Act | andres storage seine high properts electrolysis |
| Congressional investigation of effects of | and methods for reconversion in automobile |
| clean air policy on transportation | fuel synthesis 02 p0057 k74-16780 |
| [GPO-20-345] 02 p0082 W74-21625 | · · · · · · · · · · · · · · · · · · · |
| TRANSPORTATION REERGY | TURBOJET BUGINES A model of convex programming for turbojet main |
| Sodium: Clean-energy storage medium for vehicular | parameter selection optimization |
| power [7.1-5406-MS] 02 p0065 N74-17871 | Figure Direct 74-6T-791 02 00042 A74-27400 |
| Transportation energy use in the United States: A | Complete sechanical energy utilization in |
| statistical bistory, 1955 - 1971 | epropantical probblaton systems |
| [R-1391-MSF] 02 p0070 N74-18607 | 02 p0042 A/4-2/611 |
| US transportation: Some energy and environmental | Effect of water injection on mitric oxide |
| considerations | emissions of a gas turbine combustor burning |
| [H72-164] 02 p0075 N74-19624 | natural gas fuel [NASA-TM-X-2959] 01 p0025 N74-14651 |
| TREMPS Where are we headed in air transport? trends | Section 4: Propulsion and energy |
| for future aircraft design | 01 p0026 N74-14671 |
| 01 p0020 874-12669 | The influence of individual components and of |
| TRUCKS | their mechanical arrangement on the stationary operating behaviour of dual cycle propulsion |
| Energy trends and their future effects upon | engines |
| transportation applied to rail, truck, and | 02 p0079 N74-20444 |
| air cargo operations and private energy uses | TURBORACHINE BLADES |
| [P-5046] OI POUT NATURALITATION OF TUNGSTEN CARBIDES | Bucket rotor wind-driven deherator |
| Cost efficiency of tungsten carbide-carbon fuel | 02 p0057 x74-16776 |
| cells | TORBONACHINERY |
| 02 p0036 A74-24054 | Turbo-actuators turn flow into mechanical output power conversion for missile control or |
| TURBINE BLADES | pneumatic systems |
| Utilization of wind power (WaSA-TT-P-153001 02 p0046 W74-15756 | 02 p0041 A74-27136 |
| [MASA-TT-P-15300] U2 poude M/4-15/30 Smith-Putnam wind turbine experiment | High wind power plants design and perforwance |
| 02 PUU CC PUU C PU | evaluation |
| Introduction to Voigt's wind power plant | [NASA-TT-F-15444] 02 p0077 N74-19709 |
| energy conversion efficiency | TURBOPROP BEGIEBS |
| 02 p0055 N74-16/62 | Complete mechanical energy utilization in aeronautical propulsion systems |
| Voight variable speed drive for windpowered | 02 p0042 174-27611 |
| generator 02 -0057 #70-16779 | TURBORANJET ENGINES |
| 02 p0057 974-16779 | Influence of fuels and lubricants on turbine |
| TURBLES ENGINES Installation of turbine-fuels research combustor | engine design and performance, fuel and |
| laboratory test facility for analyzing fuel | lubricant analyses |
| oroblems in turbine engines | [AD-769309] 02 p0050 874-16463 |
| [AD-772945] 02 p00/3 k/4-1889/ | |
| PRODUTER BURRIS | U |
| The Oregon State University wind studies | C.S.S.R. |
| economic feasibility of windpowered generators 02 p0059 N74-16792 | Commerical petroleum products, properties and |
| • • • | applications USSR petroleum industry handbook |
| PARALLES parallel operation of a synchronous generator and | [AD-754703] 01 p0010 N74-10128 |
| an infinitely high-powered network when driven | Soviet geothermal electric power engineering, |
| hv x Ronnef-Gross wind turbine | report 2 1 AD-7549471 02 p0048 H74-15776 |
| [NASA-TT-F-15302] 02 p0047 N74-15762 | [AD-754947] 02 p0048 H74-15776 The Soviet Union, the Hiddle East, and the |
| | evolving world energy situation soviet |
| | influence |
| | [P-5109] 02 p0054 974-16675 |
| | |

By-pass engines --- characteristics of USSR VOLTAGE CONVERTERS (AC TO AC)
On the theory of alternating-current electrofluiddynamic converters aircraft engines for jet mircraft [AD-772723] UNITED STATES OF AMERICA 02 p0074 N74-19413 01 p0007 A74-18988 Legal considerations and constraints on US nuclear VOLTAGE GENERATORS policy
[AD-754641] 01 p0024 N74-1369

Patterns of energy consumption in the United States DC generator for Kolkhoz wind powered generators
[NASA-TT-F-15347] 02 p0063 N74-17786 01 p0024 N74-13697 VOLTAGE REGULATORS 02 p0080 N74-20699 DC generator for Kolkhoz wind powered generators [BASA-TT-F-15347] 02 p0063 N74-17786 UNIVERSITY PROGRAM University energy research centers 01 p0019 N74-12668 UNABIUM ISOTOPES Nuclear fuels: Uranium WASTE DISPOSAL 01 p0028 N74-15257 Supmary of the study of disposal of nuclear waste URBAN TRANSPORTATION into space EPA pollution regulations and fuel shortage: The reasibility of space disposal of radioactive nuclear waste. 1: Executive summary impact on mass transit nuclear waste. [NASA-TH-X-2911] 01 p0027 N74-14690 The assessment of an air-supported and propelled [NASA-TH-Y-2911] 01 p0025 E74-14533
Recycling solid waste for utility fuel and recovery of other resources --- identification urban transport system [CRANFIELD-CTS-1] 02 p0070 #74-18610 of mechanical problems in materials handling 02 p0071 N74-18725 Combustion and heat recovery of Air Force waste petroleum oils and lubricants VACUUM APPARATUS Thermionic energy conversion. Volume I - Processes and devices --- Book [AD-774563] WASTR DTILIZATION 02 p0082 N74-21391 01 p0004 a74-14327 Physical behaviour of some biowaste gases in an ion engine [AIAA PAPER 73-1113] Testing for thermal fatigue failures in solar arrays
--- space environment simulation in temperature
cycling vacuum chamber 01 p0001 A74-10691 Recycling solid waste for utility fuel and recovery of other resources --- identification 01 p0010 974-10240 of mechanical problems in materials handling VACUUM FURNACES 02 p0071 N74-18725 Gas-heated 'heat pipe' wacuum furnace --- using Energy recovery from waste: Solid waste as supplementary fuel in power plant boilers [SW-36D_II] 02 p0076 N74-19699 thermionic energy conversion 02 p0034 A74~19724 BATER VAPOR PHASES Some results of testing of a solar water heating installation during the heating season Heating of a substance by an arc plasma 01 p0001 A74-10463 [AD-754628] 02 p0048 M74~15777
A proposed national wind power R and D program --offshore wind power system for electric energy [AD-754628] Vapor generator feed pump for Rankine cycle automotive propulsion system (Chandler Evans) [PB-222849/2] 01 p0011 W74supplies 01 p0011 N74-10747 **VAPORIZING** WATER INJECTION Directional properties of coal and their Effect of water injection on nitric oxide emissions of a gas turbine combustor burning natural gas fuel utilization in underground gasification experiments **RETIMENTS O1 p0018

[BH-TPR-73] 01 p0018

VARIABLE FITCH PROPELLERS

Astafan - A new concept from Turbomeca --constant speed ducted turbofan engine 01 p0018 N74-12159 [NASA-TH-1-2959] 01 p0025 N74-14651 WATER RESOURCES Investigations using data in Alabama from ERTS-A nvestigations using data in minusance from about the processing and use, mineral exploration, geology, hydrology, water resources, data processing, data management, marine environments [274-10124] 01 p0023 274 02 p0037 a74-24697 Dynamic model wind tunnel tests of a wariable-diameter, telescoping-blade rotor 01 p0023 N74-13051 system (TRAC rotor)
[AD-771037] WATER VAPOR 02 p0061 N74-17764 Process for the simultaneous utilization of PEGETATION geothernic and hydrodynamic energy
[ABC-TR-7475] 02 p0072 N74-18731 Peat 01 p0029 N74-15261 WATER VEHICLES VBRICOLAR TRACKS Wind machines --- aerodynamics of sailwing vehicles 02 p0059 N74-16797 Reduction of TACV power requirements by multiple-stage air cushions A wind plant to power sea signals [NASA-TT-F-15356] WATERSHEDS 02 p0043 174-27842 02 p0060 N74-16803 VISCOUS PLUIDS Aircraft fuel system tests with gelled Strip-mined watershed hydrologic data acquisition study --- remote infrared aerial photography [PB-223558/8GA] 01 p0025 N74-14105 fuel-flowmeter calibration, fuel boost pump and jettison tests [FAA-NA-73-43] 01 p0017 N74-11928 WEATHER STATIONS VITREOUS MATERIALS The MASA-Lewis terrestrial photovoltaics program
--- solar cell power system for weather station
[MASA-TM-X-71491] 01 p0028 M74-14788
WEST VIRCINIA Vitreous oxide antireflection films in high-efficiency solar cells 01 p0004 A74-14250 VOLT-AMPERE CHARACTERISTICS Applicability of Skylab remote sensing for detection and monitoring of surface mining Analysis and improvement of silicon solar cells 02 p0037 A74-24905 activities --- Ohio, West Virginia, and Technology and performance characteristics of integral diode solar cells Pennsylvania [E74-10160] 01 p0024 #74-14028 02 p0038 A74-24908 WHERLS Partial results concerning Cds solar cells 02 p0038 174-24914 The direct driving of synchronous generators by large scale wind electrical power generating plants in parallel operation with a synchronizing network, part 1 [NASA-TT-F-15301] 02 p0047 N74-Current delivered by the solar array of the D2A-Tournesol satellite 02 p0039 A74-24928
Solar generator simulation for satellite projects
--- analog models of volt-ampere characteristics 02 p0047 N74-15757

02 p0041 174-26324

```
Using large wind power plants to directly drive
      synchronous generators in parallel operation
      with a governing network
[NASA-TT-F-15343]
                                               02 p0048 N74-15765
   Method of forming a wick for a heat pipe
[NASA-CASE-NFO-13391-1] 02 p0074 N74-19584
WIND MEASUREMENT
    Need for a regional wind survey
                                               02 00055 874-16764
   Wind power research at Oregon State University --
for selecting windpowered machinery sites
                                                02 p0056 N74-16767
STED VIEWS
   Utilization of wind power
                                                02 00046 N74-15756
WIND VARIATIONS
    Influence of wind frequency on rotational speed adjustments of windmill generators
[NASA-TT-F-15184] 01 p0012 N74-
                                                01 p0012 N74-10948
WIND
      VELOCITY
    Otilization of wind power
[NASA-TT-F-15300]
WIND VELOCITY HEASUREMENT
                                                02 p0046 N74-15756
    Wind data for wind driven plant --- site selection
      for optimal performance
                                                02 p0056 N74-16768
WIEDMILLS (WIEDPOWERED MACRIMES)
    Influence of wind frequency on rotational speed
      adjustments of windmill generators [NASA-TT-F-15184] 01
                                                01 p0012 N74-10948
    Wind energy: Its value and the choice of site for
       exploitation
                                                02 p0045 N74-15734
       [ NASA-TI-F- 15311]
    High powered electrical power generation by wind
       notors
                                                02 p0045 #74-15739
       [NASA-TT-F-15303]
    Neuwork windmill power generation plant
[MSA-TT-F-15306] 02 p0045 N74-15740
Economy and practical applications of large
       wind-driven power plants, part 1 [NASA-TT-F-15308]
                                                02 p0045 N74-15741
    wind-powered machines --- design, aerodynamic
      characteristics, and economics
[NASA-TT-F-15149]
                                                02 p0045 N74-15742
    [NASA-TT-F-15149] U2 p0043 N/4-15
Wind power plants in Russia
[NASA-TT-F-15331] O2 p0045 N/4-15
Observations on modern wind-electric power plants
--- in Italy during post-war reconstruction
[NASA-TT-F-15357] U2 p0045 N/4-15
                                              - 02 p0045 N74-15743
                                                02 p0045 N74-15745
    application of wind power to rational generation
       of electricity
[NASA-TT-P-15334]
                                                 02 p0047 X74-15759
    Investigation of the possibilities of using wind
                                                02 p0047 N74-15760
       î nasa-tt-f- 15336]
    Wind power demonstration and siting problems ---
       for recharging electrically driven automobiles
                                                 02 p0056 N74-16765
    An introduction to the Princeton sailwing windmill 02 p0056 x74-16769
    driven generators
                                                 02 p0056 874-16770
     The sail wing winduill and its adaptation for use
      in rural India
                                                 02 p0056 N74-16771
     The effect of aerodynamic parameters on power
       output of windmills
                                                 02 p0056 N74-16773
     Superflywheel energy storage system --- for windpowered machines
                                                 02 p0058 N74-16783
     Review of the windpower activities at the Brace
        Research Institute
                                                 02 p0058 N74-16787
     A comment on towers for windmills ---
                                                     structural
     02 p0059 N74-16795
Wind power, part 2 - economic feasibility, 1949
[NASA-TT-Y-15419] 02 p0063 N74-17792
Report of the Wind Power Committee of 1962
[NASA-TT-Y-154421
        and economic criteria
     [NASA-TT-F-15442]
Supplement to the report on the results achieved
        with SEAS experimental mill [NASA-TT-F-15516]
                                                 02 p0081 N74-20700
```

```
STREET STATES
    Solar energy utilization by physical methods ---
including hydropower, windpower, direct solar
heating and electric power
                                                   02 p0042 A74-27323
    Status of wind-energy conversion
                                                   02 p0042 &74-27772
    Wind-powered machines --- design, aerodynamic
      characteristics, and economics
[NASA-TT-F-15149]
                                                   02 p0045 N74-15742
    Importance and progress of wind power utilization
       in Denmark
                                                   02 p0045 N74-15746
    IN Delimate (NASA-TT-F-15353] 02 p0045 N74-15746 Utilization of wind power in agriculture in the USSA
       [ NASA-TT-F- 15345 ]
                                                   02 p0046 N74-15752
    Progress in the utilization of wind power (MASA-TT-F-15346) 02 p0046 N74-15753
    [MASA-TT-F-15340]
Medium-capacity air motor pilot plant with hydraulic energy accumulation by pumping [NASA-TT-F-15299]

02 p0046 N74-15755
    Utilization of wind power [NASA-TT-F-15300]
                                                   02 p0046 N74-15756
    The direct driving of synchronous generators by large scale wind electrical power generating
       plants in parallel operation with a
       synchronizing network, part 1 [ NASA-TT-F-15301]
                                                   02 p0047 874-15757
    Application of wind power to rational generation
       of electricity
[NASA-TT-P-15334]
                                                   02 p0047 N74-15759
    Investigation of the possibilities of using wind
       DOWEL
                                                   02 p0047 N74-15760
        NASA-TT-F-15336]
    Using large wind power plants to directly drive synchronous generators in parallel operation
       with a governing network [NASA-TT-2-15343]
                                                   02 p0048 N74-15765
    Prospects for the utilization of wind energy in
       Czechoslovakia
                                                   02 p0048 N74-15766
       F NASA-TT-F-15305 T
    Exploitation of wind energy --- windmill feasibility in industrial applications [NASA-TT-F-15309] 02 p00
                                                    02 p0055 N74-16756
     wind energy conversion systems
                                                    02 p0055 N74-16757
     [NASA-TH-X-69786]
Where there is a wind, there is a
                                                    02 p0055 N74-16763
     weed for a regional wind survey
                                                    02 p0055 N74-16764
     Surface wind characteristics of some Aleutian
       Islands --- for selection of windpowered machine
                                                    02 p0056 N74-16766
     Wind power research at Oregon State University ---
    for selecting windpowered machinery sites
02 p0056 N74-16767
Wind data for wind driven plant --- site selection
for optimal performance
     02 p0056 N74-16769
Vertical axis wind rotors: Status and potential
--- energy conversion efficiency and aerodynamic characteristics
                                                  02 p0057 N74-16774
     Advantages of the diffuser-augmented wind turbine 02 p0057 174-16775
     Bucket rotor wind-driven generator
                                                    02 p0057 N74-16776
     Review of the windpower activities at the Brace
        Research Institute
     02 p0058 N74-16787 Wind utilization in remote regions: An economic
        study --- for comparison with diesel engines
     02 p0058 R74-16790
Wind machines --- aerodynamics of sailwing vehicles
02 p0059 R74-16797
     NSF presentation --- summary on energy conversion
        research program
                                                     02 p0059 N74-16798
      MASA presentation --- wind energy conversion
        systems planning
```

The economy and practicality of large scale wind

The economy and practicality of large scale wind generation stations (conclusion)
[MASA-TT-F-15348] 02 p0060 M74-16802
The dc generators for utilizing wind power
[NASA-TT-F-15351] 02 p0063 M74-17789
Find power, part 2 - economic feasibility, 1949
[NASA-TT-F-15419] 02 p0063 M74-17792

02 p0060 N74-16799

| Status of wind-energy conversion |
|---|
| [NASI-TH-X-71523] 02 p0077 N74-19705 Analysis of the possible use of wind power in |
| Analysis of the possible use of wind power in Sweden. Part 1: Wind power resources, theory |
| of wind-power machines, preliminary model 1 and 10 MW wind generators |
| [NASA-TT-F-15441] 02 p0077 N74-19708 |
| High wind power plants design and performance |
| evaluation [NASA-TT-Y-15444] 02 p0077 N74-19709 |
| Supplement to the report on the results achieved |
| with SBAS' experimental mill |
| [FASA-TT-F-15516] 02 p0081 N74-20700 Lines of development of rural wind power plants |
| [NASA-TT-P-15513] 02 p0081 N74-20701 |
| WINDPOWERED GENERATORS |
| Status of wind-energy conversion 02 p0042 174-27772 |
| Wind energy: Its value and the choice of site for |
| exploitation [NASA-TT-P-15311] 02 p0045 N74-15734 |
| High powered electrical power generation by wind |
| notors |
| [NASA-TT-F-15303] 02 p0045 N74-15739 Neuwerk windmill power generation plant |
| [NASA-TT-P-15306] 02 p0045 N74-15740 |
| Economy and practical applications of large |
| wind-driven power plants, part 1 [NASA-TT-F-15308] 02 p0045 N74-15741 |
| Wind power plants in Russia |
| [NASA-TT-F-15331] 02 p0045 N74-15743 |
| Observations on modern wind-electric power plants in Italy during post-war reconstruction |
| [NASA-TT-F- 15357] 02 p0045 p74-15745 |
| Importance and progress of wind power utilization in Denmark |
| [NASA-TT-F-15353] 02 n0045 N74-15746 |
| Characteristic lines (yearly permanent level |
| 11Des) and characteristic wind variables for |
| wind energy production design methods for electrical generators |
| [WASA-TT-F-15354] 02 0046 N74-15747 |
| Method of calculation of annual overall efficiency of modern wind-power plants |
| [NASA-TT-F-15310] 02 p0006 N74-15749 |
| Problems in the electrical equipment of wind power |
| plants [NASA-TT-F-15312] 02 p0046 x74-15749 |
| The large scale wind driven electrical generating |
| station efficiency and economic factors |
| Utilization of wind power with Ward-Leonard type |
| clrcult in inverted operation |
| [NASA-TT-F-15352] 02 p0046 W74-15751 Importance and progress of wind power utilization |
| IN DORWILK |
| [NASA-TT-F-15349] 02 p0046 874-15754 |
| The direct driving of synchronous generators by large scale wind electrical nower generators |
| large scale wind electrical power generating plants in parallel operation with a |
| Synchronizing network, part 1 |
| [NASA-TT-F-15301] 02 p0047 N74-15757 The importance of and progress in the utilization |
| or wind power in Denmark |
| [NASA-TT-F-15333] 02 p0047 N74-15758 Air power plants in Russia and the United States |
| (IFOR Dimitry Stein, Elektrizitaetswiftsch |
| volume 40, no. 16, 1941) |
| [NASA-TT-F-15338] 02 p0047 N74-15761 Parallel operation of a synchronous generator and |
| an intibitely blob-bowered betwork when driven |
| by a Honnef-Gross wind turbine |
| [NASA-TT-F-15302] 02 p0047 N74-15762 Antenna towers as wind tower generation plants |
| [MA DA T T T T T T T D J O 4 02 m O A T T T T T T T T T T T T T T T T T T |
| wild energy assessment of windpowered |
| generator technology [NASA-TT-F-15342] 02 p0047 N74-15764 |
| Using large wind power plants to directly drive |
| synchronous generators in parallel oberation |
| with a governing network [BASA-TT-F-15343] 02 p0048 N74-15765 |
| New wind power station used during fuel |
| Shortage in World War 2 |
| [RASA-TT-F-15332] 02 p0048 N74-15767 Wind-power supply for the decimeter range |
| directional radio site at Schoenehers (#ife)) |
| factor experience gained |
| [MASA-TT-F- 15337] 02 p0048 H74-15768 |

```
The utilization of the wind energy 02 p0048 N74-15769
  Small wind-electrical installations for export
  [NASA-TT-F-15350]
Exploitation of wind energy ---
                                              02 p0048 N74-15770 Windwill
     feasibility in industrial applications [NASA-TT-F-15309] 02 n00
                                                 02 p0055 N74-16756
  Smith-Putnam wind turbine experiment
                                                 02 p0055 #74-16758
  Motion picture history of the erection and operation of the Smith-Putnam wind generator
                                                 02 p0055 N74-16759
  Percy Thomas wind generator designs
                                                 02 p0055 N74-16760
  Past developments of large wind generators in Burope
02 p0055 N74-16761
  Introduction to Voigt's wind power plant ---
     energy conversion efficiency
                                                 02 p0055 N74-16762
  Wind power demonstration and siting problems ---
    for recharging electrically driven automobiles
                                                 02 p0056 N74-16765
 Wind power research at oregon State University ---
for selecting windpowered machinery sites
  02 p0056 N74-16767
Wind data for wind driven plant --- site selection
     for optimal performance
                                                 02 p0056 N74-16768
 Rotor dynamic considerations for large wind power
    generator systems
                                                02 p0056 N74-16772
 Vertical axis wind rotors: Status and potential energy conversion efficiency and aerodynamic
    characteristics
                                                 02 p0057 #74-16774
 Wind-powered asynchronous AC/DC/AC converter system
 --- for electric power supply regulation 02 p0057 N74-16777
Voight variable speed drive --- for windpowered
    generator
 Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy 02 p0057 N74-16781
                                                02 p0057 N74-16779
 Status and applicability of solid polymer electrolyte technology to electrolytic hydrogen
    and oxygen production
                                                02 p0058 N74-16782
 Batteries for storage of wind-generated energy 02 p0058 N74-16784
 Experience with Jacobs wind-driven electric
    generating plant, 1931 - 1957
                                                02 p0058 #74-16786
 Wind power systems for individual applications ---
    electric power supplies for homes
                                                02 p0058 N74-16788
Economic considerations of utilizing small wind
   generators
O2 p0058 N74-16789
Technical feasibility study for the development of
a large capacity wind powered electrical
generating system --- by using vertical airfoil
Rotion along track system
   motion along track system
                                                02 p0059 N74-16791
The Oregon State University wind studies ---
economic feasibility of windpowered generators
02 p0059 474-16792
Prench wind generator systems --- as auxiliary
   power sources for electrical networks
02 p0059 m74-16793
A proposed national wind power R and D program ---
offshore wind power system for electric energy
   supplies
                                               02 p0059 N74-16794
Some extemporaneous comments on our experiences
   with towers for wind generators
                                               02 p0059 #74-16796
Using the energy of the wind for electrification
[NASA-TT-F-15307] 02 p0060 N74-1
                                               02 p0060 N74-16801
  wind plant to power sea signals
[NASA-TT-F-15356] 02 p0060 N74-16803
DC generator for Kolkhoz wind powered generators
[NASA-TT-F-15347] 02 p0063 N74-17786
The present status of Honnef wind power plants
[NASA-TT-F-15355] 02 p0063 N74-17787
[NASA-TT-F-15355] 02 p0063
The dc generators for utilizing wind power
[NASA-TT-F-15351] 02 p0063
```

02 p0063 N74-17789

High wind power plants --- design and performance
evaluation
[NASA-TT-F-15444] 02 p0077 N74-19709
Report of the Wind Power Committee of 1962
[NASA-TT-F-15442] 02 p0078 N74-19710
WINDPOWERED PURPS
Medium-capacity air motor pilot plant with
hydraulic energy accumulation by pumping
[NASA-TT-F-1529] 02 p0046 R74-15755
Vertical axis wind rotors: Status and potential
--- energy conversion efficiency and aerodynamic
characteristics 02 p0057 N74-16774
Energy storage by compressed air --- using
windpowered pumps 02 p0058 N74-16785

X

I RATS

Bigh energy radiography - A new technique in the development of efficiency and integrity in aero gas-turbine engines

02 p0035 174-21316

Z

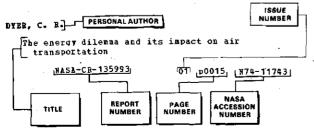
ZINC
A panel for selectively absorbing solar thermal
energy and the method for manufacturing the panel
[NASA-CASE-MFS-22562-1]
02 p0076 N74-19700

PERSONAL AUTHOR INDEX

ENERGY / A Continuing Bibliography (Suppl. 02)

NOVEMBER 1974

Typical Personal Author Index Listing



Listings in this index are arranged alphabetically by personal author. The title or the document provides the user with a brief description of the subject matter The report number helps to indicate the type of document listed (e.g., NASA report, translation, NASA contractor report). The issue, page and accession numbers are located beneath and to the right of the title, e.g., p0015 N74-11743. Under any one author's name the accession numbers are arranged in sequence with the IAA accession numbers appearing first.

NAMAN, C. New frontiers of civil aeronautics 02 p0041 A74-25352 ABRAHAH. C.

Research on electrochemical energy conversion

systems FAD-7663291

01 p0013 N74-10951

ADELHAH, H. A. Long run cost trends: Persian Gulf and United States

02 p0052 N74~16655

NEW, A. F.
Compendium of university forums of the National
Commission on Materials Policy, May - June 1972. A background document. NCMP forum on Technological Innovation in the Production and Utilization of Materials at Pennsylvania State

University, on 19-21 June 1972 [PB-223679/2GA] 01 p0025 N74-14251

Compendium of University forums of the National Commission on Materials Policy, May - June 1972. A background document: University Forum on A Dackground document.

National Materials Policy, Massachusetts

Institute of Technology on 30 May - 2 June 1972

(PR-223678/4GA) 01 p0029 N74-15290

[PB-223678/4GA] AGNOBE, A.

The jet engine design that can drastically reduce oxides of nitrogen
[AIRA PAPER 74-160] 01 p0006 A74-18

01 p0006 A74-18797

Energy alternatives for California: The current crisis. 1: The impact of Arab oil export policies on the California energy system [P-5146] 02 p0080 N74-20621

P-51461 AILLERET, P.

Wind energy: It's value and the choice of site for exploitation [NASA-TT-F-15311] 02 p0045 N74-157 02 p0045 N74-15734

ALLEN, R. Proceedings of the Solar Heating and Cooling for sessions, March 21 and 22 [PB-223536/4GA] Technical 01 p0025 N74-14499

ALLISON, H. J. An electrical generator with a variable speed input: Constant frequency output 02 p0057 N74-16778

ALLSUP, J. R. Natural gas as an automotive fuel, an experimental study

[BH-RI-7806] 01 p0011 N74-10715 ALPER, E. E. Liquid metal magnetohydrodynamics (LMMHD) technology transfer feasibility study. 1: Summary [NASA-CR-136197] 01 p0023 N74-1. Liquid metal magnetohydrodynamics (LMMID) technology transfer feasibility study. Volume 2: Appendixes 01 p0023 N74-13466

01 p0023 N74-13467 [NASA-CR-136198]

ALSTON, I. A.
Magnetic suspension and quidance of high speed

vehicles 02 p0072 N74-18892 [CTS-2]

ALSTON, W. B.
Properties of solid polymer electrolyte fluorocarbon film

01 p0011 N74-10547 [NASA-TH-D-7482]

ALVARBZ, M. C. Economics of air transport [NASA-TT-F- 15249]

01 p0026 N74-14682

AMATO, R. V. Study of application of BRTS-A imagery to fracture-related mine safety hazards in the coal mining industry

01 p0014 N74-11195 Application of ERTS-1 imagery to fracture related mine safety hazards in the coal mining industry [874-10238] 02 p0049 N74-16007

Application of EREP imagery to fracture-related mine safety hazards and environmental problems

in mining 02 p0049 x74-16019 [E74-10258] Study of application of ERTS-A imagery to fracture-related mine safety hazards in the coal

mining industry [E74-10336]

02 p0065 N74-18012

AMEND, W. E. Experimental two-phase liquid-metal magnetohydrodynamic generator program

01 p0013 N74-10952 FAD-7665881 AMINGUAL, D.
Analysis and improvement of silicon solar cells
02 p0037 A74-24905

ANDERSON, G. T.
Design considerations for the airframe-integrated

scramjet 01 p0019 N74-12448 [NASA-TH-X-2895] ANDERSON, J. L.

Assessment of lightweight mobile nuclear power systems 01 p0006 A74-17813

ANDERSON, K. F.
Residential energy use: An econometric analysis 01 p0032 N74-15698 3: Slowing [R-1297-NSF]

California's electricity quandary. the growth rate [R-1116-NSF/CSA] 02 00054 174-16680

ANDERSON, L. L. Energy potential from organic wastes: A review of the quantities and sources [BM-IC-8549]

02 p0072 N74-18815 ABTOMIDES, G. J.
Testing for thermal fatigue failures in solar arrays

01 p0010 N74-10240 ARABADZHEV. A. H. Porecasting of technological progress for long-range planning of mining operations at coal

mines 01 p0016 N74-11765 ARCELLA, F. G.

Method of forming a wick for a heat pipe
[NASA-CASE-NPO-13391-1] 02 p00 02 p0074 N74-19584

ARESTONG, P. C. Nuclear fuels: Uranium

01 p0028 N74-15257

| ARROLD, J. H. | | BECKERT, W. P. | |
|--|------------------------------------|---|---|
| Air mobility fuel cell study [AD-766757] | 01 p0022 H74-12742 | Solid state hydrogen gas generate [AIAA PAPER 73-1232] BELT, J. B. | °C 01 p0001 174-11257 |
| ATERI, A. Present state of the art in condu | _ | BELT, J. B. | lancate Brown |
| tochnology | 01 p0006 A74-17654 | Proceedings of Workshop on Navy A Sources Research and Developmen [AD-773746] | |
| AUDIBERT, H. | - | BENNETT, G. W. | · . |
| Current delivered by the solar ar D2A-Tournesol satellite | " | Hydrogen-methane fuel control sys | tems for turbojet. |
| AUSTIN, A. L. | 02 p0039 A74-24928 | [WASA-CR-121247] BENTALL, B. H. | 02 p0050 #74-16493 |
| The hydrogen fuel economy and mir [AILA PAPER 73-1319] | | Current European developments in | solar paddle drives 01 p0014 N74-11672 |
| AVBEL, J. A. Aircraft fuel system tests with g | elleđ | BBRG, C. A. Buergy conservation through effect | tive utilization |
| fuel-flowmeter calibration, fue jettison tests | | | 01 p0027 974-14688 |
| [PAA-NA-73-43] AVERITT, P. | 01 p0017 N74-11828 | Find power demonstration and siti | ng probleme 02 p0056 #74-16765 |
| Coal | 01 p0028 N74=15230 | BERGALN, P. D. | • |
| AVEZOV, R. R. | 01 poc25 M74-15230 | An economic evaluation of SHD-ste employing coal gasification | am boaethrengs |
| Some results of testing of a sola | | [#Ř-RÎ-7796] | 02 p0051, N74-16620 |
| installation during the beating [AD-754628] | 02 p0048 N74-15777 | BERMIN, B. Investigation of photovoltaic app | |
| В | | BEREAU, E. B. | 02 p0040 A74-24939 |
| BADGLEY, P. L. | | California's electricity quandary | . 3: Slowing |
| A critical review of mathematical | | | 02 p0054 974-16680 |
| modeling techniques for predict with relation to motor wehicle | | BERNARD, J. Partial results concerning CAS so | lan malla |
| [9B-224656/90h] | 02 p0066 174-18304 | tarrial resires concerning cas so | 02 p0038 174-24914 |
| BAIRBRIDGE, E. The production of liquid bydrogen | at the Borket | Description and interpretation of observed concerning the technol | the results |
| Propulsion Establishment | | satellite | |
| [RPE-TR-71/17] BAKER, B. S. | 02 p0061 N74-16996 | BRENATOWICE, D. T. | 02 p0039 A74-24929 |
| Blectrolyte for hydrocarbon air f [AD-766313] | del cells 01 p0010 #74-10085 | Method of making milicon molar ce [HASA-CASE-LEW-11069-1] | |
| Matrices for H3PO4 fuel cells | | The BASA-Levis terrestrial photov | oltaics program |
| [AD-766312] BALAGUROT, V. A. | 01 p0010 N74-10086 | [NASA-TK-X-71491] BRSSON, J. | 01 p0028 N74-14788 |
| State-of-the-art and prospects of machines for self-contained ele | ctrical supply | New technology for CdS-Cu2S solar reliability | cells of high |
| systems and controllable electr: [AD-773893] | ical drivers 02 p0081 #74-20703 | BIENSTOCK, D. | 02 p0038 A74-24910 |
| BALASKOVIC, P. | • | An economic evaluation of MHD-ste | am powerplants |
| Onboard energy sources and propulations | sion systems for | employing coal gasification [BK-RI-7796] | 02 p0051 N74-16620 |
| [ONERA, TP NO. 1311] BALZHISER, R. B. | 02 p0037 174-24313 | BIRNBREIBR, H. A novel method of cooling semicon | - Anstes denices |
| Energy options | | for power electronics | • |
| BARANOV, V. IU. | 02 p0070 N74-18604 | [BMPT-PBT-02] BLANK, L. | 01 p0015 x74-11739 |
| Qualitative analysis of the effic | | A hydrogen energy carrier. Volum [WASA-CR-134175] | e 1: Summary |
| energy conversion | 01 p0003 &74-13944 | [MASA-CR-1341/5] A hydrogen energy carrier. Volum | |
| BARBER, B. E. Investigation of chemical APU app. | lication for | analysis [WASA-CR-134176] | - |
| small ground power sources | | BLON, J. H. | |
| [AD-765724] BARBER, W. H. | 01 p0009 N74-10082 | Relaxation phenomena in an MHD ge pre-ionizer | nerator with |
| Solid state hydrogen gas generato: | | - | 02 p0033 A74-19454 |
| [AIAA PAPER 73-1232] BARGELLINI, P. L. | 01 p0001 A74-11257 | BODEN, D. P. Nickel-zinc cells with non-sinter | ed electrodes |
| Prospects of energy conversion and from space systems technology | d storage derived | | 02 p0035 174-20631 |
| | 02 p0033 A74-19485 | BORHM, H. Cost efficiency of tungsten carbi | de-carbon fuel |
| EARR, B. G. Research on the application of sa | tellite remote | cells | 02 p0036 A74-24054 |
| sensing to local, state, region: | al, and national | BOGDANOFF, D. W. | |
| programs involved with resource environmental quality | management and | Impinging jet separators for lique magnetohydrodynamic power cycle. | |
| [NASA-CR-136472] BAUGHHAN, M. L. | 01 p0024 N74-14093 | [NASA-CR-136552] | 01 p0027 N74-14785 |
| Modeling of electric power demand | growth | BOYLB, R. R. The effect of fael availability of | n future R and D |
| [PE-224045/5GA] BAUBEISTER, Y. | 02 p0054 N74-16690 | programs in power generation | |
| A wind plant to power sea signals | | BRADLEY, J. C. | 01 p0031 N74-15689 |
| [FASA-TT-F-15356] BEATTY, D. P. | 02 p0060 N74-16803 | Clean, bright, and dry | 02 p0034 A74-20213 |
| ERTS-1 imagery use in reconnaissan | nce prospecting: | BRANDHORST, H. W., JR. | - |
| Evaluation of commercial utility imagery in structural reconnaise | y or ERTS-1 Sance for | The multiple junction edge illuming [NASA-TH-X-71476] | nated solar cell 01_p0012 N74-10947 |
| minerals and petroleum [E74-10345] | 02 p0082 N74-20948 | • · · · · · · · · · · · · · · · · · · · | The second second second |
| | V- FUVUE BIT-20740 | | |

| | BBASLOW, A. L. | Calvage, C. |
|----|--|---|
| | Aeronautical fuel conservation possibilities for | Investigation in energy transfer and energy conversion for advanced power and propulsion |
| | advanced subsonic transports [NASA-TH-X-71927] 02 p0080 N74-20654 | Bysteds |
| | DREITWIESER, R. | [AD-771581] 02 p0067 N74-18417 |
| | Development concept for a small, split-core; | CALVIE, H. |
| | heat-pipe-cooled nuclear reactor | Solar energy by photosynthesis 02 p0042 A74-27322 |
| | [NASA-TH-I-2996] 02 p0078 N74-20238 | CHERON, C. C. |
| | DREMBIN, M. E. Controlled fusion research | Peat |
| | E. : [.70 PB-G-4] 02 p0074 R74-19290 | 01 p0029 N74-15261 |
| | BRESUARAN, D. L. | CAMP, R. H. |
| | Refan program. Phase 1: Summary report | Electrolyte for hydrocarbon air fuel cells fab-7663131 01 p0010 H74-19085 |
| | [Nasa-TH-X-71456] 01 p0009 N74-10043 | [AD-766313] 01 pouts 8/4-19085 Matrices for E3P04 feel cells |
| | BREWER, G. D. The case for bydrogen fueled transport sircraft | · [AD-766312] 01 p0010 N74-10086 |
| | [AIA] PAPER 73-1323] 01 p0002 174-11315 | CAPUANT. A. |
| | Hydrogen - Hake-sense fuel for an American | Engine cycle selection for commercial STOL aircraft |
| | supersonic transport | 02 p0079 N74-20408 |
| | [AIAA PAPER 74-163] 02 p0033 A74-19353 | CARL, R. Cost efficiency of tungsten carbide-carbon fuel |
| | Petroleum exploration subprogram: Geological | cells |
| ١. | interpretation of proportional imagery from | 02 p0036 174-24054 |
| | ERTS-A satellite | CARNEGIS, I. A. |
| | [874-10213] 01 p0028 874-15020 | Engine sensory requirements for energy management 02 p0043 174-28311 |
| | BRODER, J. D. | · · |
| | The use of FEP Teflon in solar cell cover technology [NASA-TH-X-71485] 01 p0012 N74-10944 | CARBER, A. Utilization of wind power with Ward-Leonard type |
| | Method of making milicon solar cell array | circuit in inverted operation |
| | [NASA-CASE-LEW-11069-1] 01 p0027 N74-14784 | [NASA-TT-F-15352] 02 p0046 H74-15751 |
| | BROGAN, T. R. | The dc generators for utilizing wind power [NASI-TT-F-15351] 02 p0063 N74-17789 |
| | Development of design criteria, cost estimates, | [NASI-TT-F-15351] 02 p0063 N74-17789 CASHION, N. B. |
| | and schedules for an MBD high performance demonstration experiment | Bitumen-bearing rocks |
| | [AD-766232] 01 p0017 #74-11852 | 01 p0028 N74-15226 |
| | BROOKS, R. L. | CASTELLANI, A. |
| | applicability of Skylab remote sensing for | The use of the pressurized balloon for detecting |
| | detection and monitoring of surface mining | energy resources 02 p0033 174-19473 |
| , | . activities [E74-10160] 01 p0024 N74-14028 | CROTRISKI, J. B., JB. |
| | BROWN, W. K. | Low energy cas utilization in combustion gas turbine |
| | Sodium: Clean-energy storage medium for vehicular | 01 p0029 X74-15447 |
| | power [1A-5406-MS] 02 p0065 H74-17871 | CHIDFICK, J. W. General aviation cost impact study. Volume 1: |
| • | BRURRING. G. | Ryacutiva cumbary |
| | Does research in the field of aeronautics have a | [AD-771603] 02 p0062 N74-17779 |
| | future | General aviation cost impact study. Volume 2: Research methodology |
| | 02 p0041 A74-25723 BUCKHELL, B. L. | [AD-771606] 02 p0062 874-17780 |
| | Influence of fuels and lubricants on turbine | General aviation cost impact study. Volume 3: |
| | engine design and performance, fuel and | Planning guide |
| | lubricant analyses | [AD-771759] 02 p0062 R74-17781 |
| | [AD-769309] 02 p0050 N74-16483 | CHAGUHAVA, V. T. Catalytic combustion of carbon monoxide in |
| | BUDGEN, E. P. A comment on towers for windmills | gasoline engine exhaust using manganese catalysts |
| | 02 p0059 N74-16795 | [AD-760395] 01 p0011 N74-10874 |
| | BUSCHLER, L. W. KIVA-I NHD generator modifications and tests | CHANG, H. H. |
| | KTVA-T NHD denerator modifications and tests | |
| | | Bucket rotor wind-driven generator 02 p0057 R74-16776 |
| | [AD-770063] 02 p0060 N74-16815 | 02 p0057 H74-16776 |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. E. Industrial use of aerospace technology | 02 p0057 H74-16776 CHARKET, A. Sealed, rechargeable nickel-zinc cells |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. E. Industrial use of aerospace technology 01 p0002 N74-12905 | 02 p0057 H74-16776 CHARKEY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 |
| | [AD-770063] 02 p0060 H74-16815 BURNETT, J. E. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. | 02 p0057 H74-16776 CHARKET, A. Sealed, rechargeable nickel-zinc cells |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. E. Industrial use of aerospace technology 01 p0002 N74-12905 | O2 p0057 H74-16776 CHARKEY, A. Sealed, rechargeable nickel-zinc cells O2 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] O2 p0072 E74-18737 CHARPIE, B. A. |
| , | [AD-770063] 02 p0060 N74-16815 BURNETT, J. E. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOV, A. B. | CHARKEY, 1. Sealed, rechargeable nickel-zinc cells 02 p0035 174-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 874-18737 CHARPIE, R. A. The international aspects of importing natural gas |
| , | [AD-770063] 02 p0060 N74-16815 BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOY, A. B. Characteristics of a nonequilibrium MHD generator | CHARKEY, 1. Sealed, rechargeable nickel-zinc cells 02 p0035 174-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 874-18737 CHARPIE, R. 1. The international aspects of importing natural gas 02 p0068 874-18588 |
| , | [AD-770063] 02 p0060 N74-16815 BURNETT, J. E. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOV, A. B. | CHARKEY, 1. Sealed, rechargeable nickel-zinc cells 02 p0035 174-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 874-18737 CHARPIE, R. A. The international aspects of importing natural gas |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOY, A. B. Characteristics of a nonequilibrium MHD generator | CHARRY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 174-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 874-18737 CHARPIE, R. A. The international aspects of importing natural gas 02 p0068 874-18588 CHBW, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUILER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOY, A. B. Characteristics of a nonequilibrium HHD generator 01 p0005 A74-17439 | CHARREY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 K74-18737 CHARPIE, B. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 K74-17190 |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. E. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 C | CHARKEY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 B74-18737 CHARPIE, R. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHEN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 M74-17190 CHERRY, W. R. |
| | [AD-770063] BURNETT, J. B. Industrial use of aerospace technology O1 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium O1 p0028 M74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator O1 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary | CHARREY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 K74-18737 CHARPIE, B. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 K74-17190 |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium HHD generator 01 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary INASA-CR-1341751 01 p0014 N74-11727 | CHARKEY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 & 74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 & 74-18737 CHARPIE, R. A. The international aspects of importing natural gas 02 p0068 & 74-18588 CHEN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 & 74-17190 CHERRI, N. R. Conclusions and recommendations of the United States Solar Energy Panel |
| - | [AD-770063] 02 p0060 N74-16815 BURNETT, J. E. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] 01 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis | CHARRY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 K74-18737 CHARPIB, R. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 K74-77190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel CHERITALLER, H. |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Oranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] 01 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] 01 p0014 N74-11728 | CHARKEY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 K74-18737 CHARPIE, R. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHEN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 K74-17190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel CHEISTALLEE, H. Exploitation of wind energy |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUYLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] 01 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] 01 p0014 N74-11728 CALL: R. L. | CHARRY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 K74-18737 CHARPIB, R. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 K74-77190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel CHERITALLER, H. |
| | [AD-770063] 02 p0060 N74-16815 BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Oranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] 01 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] 01 p0014 N74-11728 | CHARRY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 K74-18737 CHARPIE, R. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 K74-17190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel 02 p0040 A74-24991 CHEISTALLEE, H. Exploitation of wind energy (MASA-TT-F-15309) CILIANO, R. Quantitative energy studies and models: A state |
| | [AD-770063] BURNETT, J. B. Industrial use of aerospace technology O1 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium O1 p0028 M74-15257 BUZMIKOV, A. B. Characteristics of a nonequilibrium MHD generator O1 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] | CHARKEY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 874-18737 CHARPIE, R. A. The international aspects of importing natural gas CHEN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 R74-17190 CHERRI, W. R. Conclusions and recommendations of the United States Solar Energy Panel CHRISTALLER, H. Exploitation, of wind energy [NASA-TT-F-15309] CILIANO, R. Quantitative energy studies and models: A state of the art review |
| | [AD-770063] BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] CALL, R. L. Inversion layer solar cell fabrication and evaluation [NASA-CR-136932] CALMON, J. | CHARRY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] 02 p0072 K74-18737 CHARPIB, R. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 N74-77190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel CHRISTALLER, H. Exploitation, of wind energy [HASA-TT-F-15309] CLILIANO, R. Quantitative energy studies and models: A state of the art review 02 p0070 K74-18623 |
| - | [AD-770063] BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Oranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] O1 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] CALL, R. L. Inversion layer solar cell fabrication and evaluation [NASA-CR-136932] O2 p0060 N74-16807 CALBON, J. Performance and noise aspects of supersonic | CHARKEY, A. Sealed, rechargeable nickel-zinc cells 02 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] CHARPIE, R. A. The international aspects of importing natural gas 02 p0068 M74-18588 CHEN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor 02 p0061 M74-17190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel CHRISTALLER, H. Exploitation of wind energy [MASA-TT-F-15309] CLIAMO, R. Quantitative energy studies and models: A state of the art review 02 p0070 M74-18623 |
| | [AD-770063] BURNETT, J. B. Industrial use of aerospace technology 01 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium 01 p0028 N74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator 01 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] CALL, R. L. Inversion layer solar cell fabrication and evaluation [NASA-CR-136932] CALMON, J. | CHARRY, A. Sealed, rechargeable nickel-zinc cells O2 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] O2 p0072 K74-18737 CHARPIB, R. A. The international aspects of importing natural gas O2 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor O2 p0061 M74-77190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel CHEISTALLER, H. Exploitation, of wind energy [MASA-TT-F-15309] CILLANO, R. Quantitative energy studies and models: A state of the art review O2 p0070 M74-18623 CIVINSKAS, K. C. A simplified life-cycle cost comparison of various engines for small helicopter use |
| | [AD-770063] BURNETT, J. B. Industrial use of aerospace technology O1 p0002 A74-12905 BUYLER, A. P., JR. Nuclear fuels: Uranium O1 p0028 M74-15257 BUZWIKOV, A. B. Characteristics of a nonequilibrium MHD generator O1 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] O1 p0014 M74-11728 CALL, R. L. Inversion layer solar cell fabrication and evaluation [NASA-CR-136932] O2 p0060 M74-16807 CALBON, J. Performance and noise aspects of supersonic transport | CHARREY, A. Sealed, rechargeable nickel-zinc cells O2 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] O2 p0072 K74-18737 CHARPIE, R. A. The international aspects of importing natural gas O2 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor O2 p0061 K74-17190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel O2 p0040 A74-24941 CHRISTALLEE, H. Exploitation, of wind energy (MASA-TT-F-15309) CILIANO, R. Quantitative energy studies and models: A state of the art review O2 p0070 K74-18623 CIVINSKAS, K. C. A simplified life-cycle cost comparison of various engines for small helicopter use [MASA-TH-X-71517] O2 p0074 K74-19405 |
| | [AD-770063] BURNETT, J. E. Industrial use of aerospace technology O1 p0002 A74-12905 BUTLER, A. P., JR. Nuclear fuels: Uranium O1 p0028 M74-15257 BUZNIKOV, A. B. Characteristics of a nonequilibrium MHD generator O1 p0005 A74-17439 C CADY, T. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] O1 p0014 M74-11727 A hydrogen energy carrier. Volume 2: Systems [NASA-CR-134176] O1 p0014 M74-11728 CALL, R. L. Inversion layer solar cell fabrication and evaluation [NASA-CR-136932] O2 p0060 M74-16807 CALMON, J. Performance and noise aspects of supersonic transport O1 p0003 A74-13798 | CHARRY, A. Sealed, rechargeable nickel-zinc cells O2 p0035 A74-20630 High energy sealed nickel-zinc batteries [AD-772944] O2 p0072 K74-18737 CHARPIE, R. A. The international aspects of importing natural gas O2 p0068 M74-18588 CHBN, C. Kinetics of coal gasification in a low pressure, low residence time, entrained flow reactor O2 p0061 K74-17190 CHERRY, W. R. Conclusions and recommendations of the United States Solar Energy Panel CHEISTALLER, H. Exploitation, of wind energy [MASA-TT-F-15309] CILIANO, R. Quantitative energy studies and models: A state of the art review O2 p0070 K74-18623 CIVINSKAS, K. C. A simplified life-cycle cost comparison of various engines for small helicopter use |

| CLARK, J. H. | CULBERTSON, W. C. |
|--|--|
| Magnetic suspension and guidance of high speed vehicles | Oil shale O1 p0029 N74-15260 |
| [CTS-2] 02 p0072 N74-18892 CLARK, S. H. | CUTLES, W. H. Gas generators - A perspective |
| Government, policies, national objectives, and the energy industries | [AÎDA PAPER 73-1168] 01 p0001 174-11219 CUTTING, J. C. |
| 02 p0051 N74-16653 | Experimental two-phase liquid-metal magnetohydrodynamic generator program |
| Satellite nuclear power station: An engineering analysis | [AD-766588] 01 p0013 n74-10952 |
| 01 p0002 h74-13234 CLEWS, H. M. | D |
| Wind power systems for individual applications 02 p0058 N74-16788 COCKSHUTT, E. P. | DAILY, J. W. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven |
| Energy in transportation 01 p0023 N74-13675 | supersonic MHD generator Channels 02 p0036 A74-23221 |
| COHEN-SOLAL, G. | DARIDAU, P. |
| Current prospects for solar cells 02 p0040 A74-24943 | Description of the energy source project delivering 1 megajoule in ! microsecond [1P-3] 02 p0061 N74-17454 |
| Determining the effects of gasoline price on use | DABIEL-BEK, V. S. |
| of metals in automobile manufacture [BM-RI-7871] 02 p0062 874-17666 | Dependence of efficiency and specific characteristics of fuel cells on discharge |
| COLE, R. Experimental two-phase liquid-metal | conditions [AD-773264] 02 p0081 R74-20704 |
| magnetohydrodynamic generator program | DAVIS, B. K. |
| [AD-766588] 01 p0013 N74-10952 COLLINS, D. H. | Solar energy power system [NASA-CASE-MYS-21628-1] 01 p0025 N74-14496 |
| Power sources 4: Research and development in non-mechanical electrical power sources; | DAWSON, D. W. Low Nox emission combustor development for |
| Proceedings of the Eighth International Symposium, Brighton, Sussex, England, September | automobile gas turbine engines [PB-225133/8GA] 02 p0067 N74-18414 |
| 24-26, 1972 02 p0034 174- 20627 | DEAN, P. A bibliography of non-technical literature on energy |
| COLLINS, R. J. An evaluation of the suitability of ERTS data for | 02 p0051 N74-16641 |
| the purposes of petroleum exploration [E74-10029] 01 p0018 F74-12119 | The 1.5-kW fuel cell powerplant [AD-767302] 01 p0022 N74-12744 |
| Evaluation of the suitability of Skylab data for the purpose of petroleum exploration | DEMETER, J. J. An economic evaluation of MBD-steam powerplants |
| [E74-10331] 02 p0065 N74-18007 COBBS, J. B. | employing coal gasification [BM-RI-7796] 02 p0051 N74-16620 |
| Feasibility study for development of hot-water | DENGEL, O. H. |
| geothermal systems [AD-771016] 02 p0064 x74-17901 COSTOIS, W. H. | Solid state hydrogen gas generator (AIAA PAPER 73-1232) 01 p0001 A74-11257 DIRHL, L. A. |
| The effect of fuel availability on future R and D programs in power generation | Effect of water injection on nitric oxide emissions of a gas turbine combustor burning |
| COOK, C. S. 01 p0031 N74-15689 | natural gas fuel [NASA-TM-1-2959] 01 p0025 N74-14651 |
| Closed cycle MHD for central station power with fossil or nuclear fuels | DILLE, E. K. Recycling solid waste for utility fuel and |
| [AD-766500] 01 p0012 N74-10949 COTE, R. W. | recovery of other resources 02 p0071 N74-18725 |
| General aviation cost impact study. Volume 1: Executive summary | DIMITRIADES, B. The association of automotive fuel composition |
| [AD-771603] 02 p0062 R74-17779 General aviation cost impact study. Volume 2: | with exhaust reactivity [PB-222609/0] 01 p0010 N74-10129 |
| Research methodology [AD-771606] 02 p0062 N74-17780 | Porecasting of technological progress for |
| General aviation cost impact study. Volume 3: Planning guide | long-range planning of mining operations at coal mines |
| [AD-771759] 02 p0062 x74-17781 COTTON, P. O. | DOCTOR, R. D. 01 p0016 874-11765 |
| Waste lubricating oil research: An investigation of several re-refining methods | Measures for slowing growth in electricity consumption |
| [BH-RI-7884] 02 p0078 N74-20069 CON, K. A hydrogen energy carrier. Volume 1: Summary | (P-5017) 02 p0054 N74-16676 California's electricity quandary. 3: Slowing the growth rate |
| [NASA-CR-134475] 01 p0014 N74-11727 h bydrogen energy carrier. Yolume 2: Systems | [R-1116-NSF/CSA] 02 p0054 N74-16680 |
| analysis [WASA-CR-134176] 01 p0014 N74-11728 | Economic considerations of utilizing small wind generators |
| CRIBBINS, P. D. The energy dilemma and its impact on air | 02 p0058 N74-16789 |
| transportation [MASA-CR-135993] 01 p0015 M74-11743 | California's electricity quandary. 3: Slowing the growth rate |
| CROSS, J. S. Balancing the demand and supply of other energy | [R-1116-NSF/CSA] 02 p0054 x74-16680 pugas, p. j. |
| forms 02 p0052 N74-15660 | Fuel from organic matter: Possibilities for the state of California |
| CODLIN, J. J. Performance characteristics of a pneumatic tube | [P-5107] 02 p0054 x74-16674 puncan, D. C. |
| transportation system 02 p0072 N74-18888 | Energy resources of the United States [CIRC-650] 01 p0031 N74-15685 |
| • | Energy resources of the United States [CIRC-650] 02 p0075 N74-19614 |

| DUBLOP, J. D. Chémical storage of hydrogen in Ni/R2 cells | BSCHER, W. J. D. Hydrogen - Make-sense fuel for an American |
|--|---|
| DIER, C. R. 01 p0004 A74-14248 The energy dilemma and its impact on air transportation | supersonic transport [AIAA PAPER 74-163] Prospects for hydrogen as a fuel for transportation systems and for electrical power |
| [NASA-CR-135993] 01 p0015 N74-11743 DYER, D. F. | generation [ORML-TM-0305] 01 p0030 N74-15449 |
| MHD for power generation: The view of a chosen few [AD-760342] 01 p0025 N74-14408 | A problem statement: Ocean based solar-to-hydrogen energy conversion macro system 02 p0076 874-19694 |
| E . | Prospects for liquid hydrogen fueled commercial aircraft |
| EARL, H. W. Chemical storage of hydrogen in Fi/H2 cells | [PR-37] 02 p0080 N74-20647 EVDOKINOV, V. H. |
| 01 p0004 A74-14248 Research on the application of satellite remote | The optimization of silicon photocell operated in conjunction with solar radiation concentrators 02 p0037 174-24906 |
| sensing to local, state, regional, and national programs involved with resource management and environmental quality | F |
| [NASA-CR-136472] 01 p0024 N74-14093 BBACK, R. L. | PALCO, M. Aircraft symmetric flight optimization |
| Design of high-temperature solid-electrolyte fuel-cell batteries for maximum power output per unit volume | PALCONE, C. A. Long range trends in the character of electric |
| * 02 p0036 A74-22355 | power systems 02 p0049 N74-15908 |
| <pre>BBERLE, W. R. Reduction of TACV power requirements by multiple-stage air cushions</pre> | FANG, P. R. Low-cost silicon solar cells for terrestrial |
| 02 p0043 A74-27842 | applications 02 p0038 A74-24909 |
| Aviation turbine fuel and its lubricating qualities. II | FEO. G. Engine cycle selection for commercial STOL aircraft |
| 02 p0035 A74-22271 ECCLESTON, B. H. | 02 p0079 874-20408 |
| The association of automotive fuel composition with exhaust reactivity [PB-222609/0] 01 p0010 M74-10129 | The second fifteen years in space; Proceedings of the Eleventh Goddard Memorial Symposium, Washington, D.C., March 8, 9, 1973 |
| BCKERT, J. A. Investigation of photovoltaic applications | 01 p0004 A74-14463 |
| 02 p0040 a74-24939 BHRICKE, K. A. | The 1.5-kW fuel cell powerplant [10-767302] 01 p0022 N74-12744 |
| Use of Shuttle in establishing large space installations 01 p0004 174-14121 | FERRI, A. The jet engine design that can drastically reduce oxides of nitrogen |
| Regional and global energy transfer via passive power relay satellites | [AIAA PAPER 74-160] 01 p0005 A74-18797 PERRI, A., JR. |
| 01 p0005 A74-16116 EL-REFAIR, B. F. | Legal considerations and constraints on US nuclear policy |
| Theoretical performance of cylindrical parabolic solar concentrators 01 p0001 174-10026 | (AD-754641) 01 p0024 N74-13697 PINCH, W. I. Nuclear fuels: Uranium |
| ELDRIDGE, P. R. | 01 p0028 R74-15257 |
| Solar energy systems (M73-26) 02 p0064 M74-17795 | Technology and performance characteristics of integral diode solar cells |
| ELLEMAN, D. D. Heat operated cryogenic electrical generator [NASA-CASE-NPO-13303-1] 02 p0077 N74-19701 | 02 p0038 A74-24908 PISHBACH, L. M. |
| ELLIBGES, D. C. A bibliography of Congressional publications on | A simplified life-cycle cost comparison of various engines for small helicopter use |
| energy from the 89th Congress to 1 July 1971 02 p0051 N74-16642 | [NASA-TH-I-71517] 02 p0074 N74-19405 FIECHOW, J. |
| PILIS, J. N. Investigation of chemical APU application for | Trapping of solar energy at Basako with the aid of a silicon solar cell panel |
| small ground power sources [AD-765724] 01 p0009 M74-10082 | 02 p0041 A74~25481 PIREING, R. D. |
| ELSEL, N. pesign study of superconducting 5 tesla dipole | Natural gas as an automotive fuel, an experimental study |
| magnets for MGD generators [IPP-IV-53] 02 p0067 N74-18328 | [BH-RI-7806] 01 p0011 N74-10715 PLETCHER, R. S. |
| Outlook for energy in the United States to 1985 On pool 174-15697 | The environment and the gas turbine 02 p0035 A74-21874 PLORBS, C. V. |
| RESET, K. O. Review of the results from the Eastern Atlantic Continental Margin Program of the International | Petroleum exploration subprogram: Geological interpretation of proportional imagery from ERTS-A satellite |
| Decade of Ocean Exploration [PB-225036/3GA] 02 p0065 N74-18073 | [274-10213] 01 p0028 874-15020 FOLEY, R. T. |
| ERICKSON, B. W. Balancing the supply and demand for natural gas | Research on electrochemical energy conversion systems |
| 02 p0052 N74-16657 BRLICKI, M. S. | [AD-766329] 01 p0013 N74-10951 porenas, r. H. |
| Direct energy conversion by means of solar cells 02 p0040 A74-24937 | Advantages of the diffuser-augmented wind turbine 02 p0057 x74-16775 |
| ERLMEIRE, R. Supersonic fuels from medium oils produced by the thermal cracking of crude oil residues [DFVLR-SONDDR-301] 01 p0006 &74-18925 | PORESTIERI, A. F. Method of making silicon solar cell array [NASA-CASE-LEW-11069-1] 01 p0027 x74-14784 |

| PORMEY, A. J. | | Space solar power | |
|--|---|--|---|
| Analyses of tars, char, gases, a | | Surmer consumption with | 02 p0040 A74-2494 |
| effluents from the synthane pro [BN-TPR-76] | 02 p0049 N74-15808 | Energy conservation with solar c | 11 mate control 02 p0050 N74~1651 |
| FORRESTER, J. | 02 p0043 #74-13000 | h new view of solar energy | 02 p0030 H74-1631: |
| Computer simulation of world dyna | amics and | | 02 p0050 N74-1651 |
| implications for policy decision | | Peasibility study of a satellite | solar power station |
| Remarks | 02 p0068 N74-18585 | [NASA-CR-2357] New sources of power: Solar ener | 02 p0063 N74-1778 Fgy |
| | 02 p0068 N74-18589 | | 02 p0063 N74-1779 |
| POSTER, W. G. Development program for a liquid | mothano bost nino | GLASSHAW, A. J. | |
| neserohment brodtam for a fidnia | 01 p0003 A74-14046 | Computer program for thermodynamic open cycle multishaft power sys | ic analysis of |
| PRANS, A. P. | or good are indic | reheat and intercool | Scom with murtiple |
| Isotope kilowatt program | | [NASA-TN-D-7589] | 02 p0071 N74-18727 |
| [ORNL-75-4243] | 01 p0025 N74-14377 | GODWIN, L. H. | |
| PRADEBBURGH, B. A. Dynamic model wind tunnel tests | of a | Classification of public lands va geothermal steam and associated | distance for |
| variable-diameter, telescoping | | resources | i geothermai |
| system (TRAC rotor) | | [CIRC-647] | 02 p0049 N74-16049 |
| [AD-771037] | 02 p0061 N74-17764 | CORTZINGER, J. W. | |
| TRAIZE, W. E. US transportation: Some energy a | and annironmental | Waste lubricating oil research: of several re-refining methods | An investigation |
| considerations | and environmental | [BM-RI-7884] | 02 p0078 N74-20069 |
| [164] | 02 p0075 N74-19624 | GOPP, G. B. | - |
| FREEMAN, S. D. | | Noncaking coal gasified in a stir | |
| Issues involved in developing an | 02 p0069 N74-18594 | [BH-TPR-77] GOLDSHITH, J. S. | 02 p0073 N74-19117 |
| FREEY, J. | 02 p0005 874 10554 | Bydrogen-methane fuel control sys | stems for turbolet |
| New technology for CdS-Cu2S solar | cells of high | engines | |
| reliability | 40 -8435 ATK SUGAS | [NASA-CR-121247] | 02 p0050 N74-16493 |
| PRIEDRAM, N. | 02 p0038 A74-24910 | GONZALEZ, A. J. | |
| Direct energy conversion by means | s of solar cells | Future United States population, and energy demands | economic growth, |
| | 02 p0040 174-24937 | | 02 p0051 N74-16652 |
| PROESLICE, A. J. Power conditioning system for FAR | | GOODMAN, R. M. | _ |
| traffic control centers | all loute | Research on electrochemical energery systems | y conversion |
| | 01 p0019 N74-12636 | [AD-766329] | 01 p0013 N74-10951 |
| PROEHLICH, A. J., JR. | | GOODNANSON, L. T. | - |
| Power conditioning system for FAA Traffic Control Centers | Alr Route | Where are we headed in air transp | |
| | 01 p0004 A74-14133 | GOULD, R. E. | 01 p0020 N74-12669 |
| _ | | Exploratory development of a glas | s ceramic |
| | | | |
| G | | automobile thermal reactor | |
| • | | [NASA-CR-134513] | 01 p0019 N74-12447 |
| GABREL, G. A novel method of cooling semicon | nductor devices | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A | |
| GAMMEL, G. A novel method of cooling semicor for power electronics | | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents | guide for Los |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] | nductor devices 01 p0015 N74-11739 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] | |
| GARHEL, G. A novel method of cooling semicor for power electronics [BMFT-PBT-02] GARRISON, G. W. | 01 p0015 k74-11739 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAYEN, R. M. | guide for Los 02 p0080 N74-20622 |
| GABHEL, G. A novel method of cooling semicor for power electronics [BMFT-FET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MED high p | 01 p0015 %74-11739 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAYEN, R. M. Calculations on a solar energy sy [LBL-1773] | guide for Los 02 p0080 N74-20622 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PBT-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment | 01 p0015 %74-11739 cost estimates, performance | [NASA-CR-134513] GRAUBARD, H. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAVEN, R. H. Calculations on a solar energy sy [LBL-1773] GREFLEY, R. S. | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-13538 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PBT-02] GARRISON, G. W. Development of design criteria, cand schedules for an MHD high p demonstration experiment [AD-766232] | 01 p0015 %74-11739 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAYEN, R. M. Calculations on a solar energy sy [LBL-1773] | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-13538 |
| GARHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an | 01 p0015 N74-11739 cost estimates, erformance 01 p0017 N74-11852 dd water found in | [NASA-CR-134513] GRAUBARD, H. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAYEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview | guide for Los 02 p0080 N74-20622 (stem 01 p0023 N74-13538 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PBT-02] GARRISON, G. W. Development of design criteria, c and schedules for an BHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro | 01 p0015 N74-11739 cost estimates, cerformance 01 p0017 N74-11852 id water found in | [NASA-CR-134513] GRAUBARD, H. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. H. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations | guide for Los 02 p0080 N74-20622 (stem 01 p0023 N74-13538 02 p0069 N74-18597 (ment: A set of |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] GARRISON, G. W. Development of design criteria, c and schedules for an MRD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] | 01 p0015 N74-11739 cost estimates, erformance 01 p0017 N74-11852 dd water found in | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAYEN, R. M. Calculations on a solar energy sy [LBL-1773] GRELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-13538 02 p0069 N74-18597 ment: A set of |
| GARHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. | 01 p0015 N74-11739 cost estimates, cerformance 01 p0017 N74-11852 ad water found in cess 02 p0049 N74-15808 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAYEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-13538 02 p0069 N74-18597 ment: A set of |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] GARRISON, G. W. Development of design criteria, cand schedules for an MRD high part of demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by means | 01 p0015 N74-11739 cost estimates, cerformance 01 p0017 N74-11852 ad water found in cess 02 p0049 N74-15808 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAYEN, R. M. Calculations on a solar energy sy [LBL-1773] GRELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] | guide for Los 02 p0080 N74-20622 (stem 01 p0023 N74-13538 02 p0069 N74-18597 (ment: A set of 02 p0075 N74-19615 (y Policy |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by Beans GENTEL, J. E. | 01 p0015 N74-11739 cost estimates, cerformance 01 p0017 N74-11852 ad water found in cess 02 p0049 N74-15808 c of solar cells 02 p0040 A74-24937 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAVEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-13538 02 p0069 N74-18597 ment: A set of 02 p0075 N74-19615 y Policy 02 p0082 N74-21619 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PBT-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVEIL, S. Direct energy conversion by Beans GENTEL, J. R. Characterization of particulates | 01 p0015 N74-11739 cost estimates, cerformance 01 p0017 N74-11852 dd water found in cess 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELBY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer | guide for Los 02 p0080 N74-20622 (stem 01 p0023 N74-13538 02 p0069 N74-18597 (ment: A set of 02 p0075 N74-19615 (y Policy 02 p0082 N74-21619 (its of different |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane profile of th | 01 p0015 N74-11739 cost estimates, performance 01 p0017 N74-11852 and water found in seess 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other abile sources and | [NASA-CR-134513] GRAUBARD, H. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAVEN, R. H. Calculations on a solar energy sy [LBL-1773] GREZELSY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft | guide for Los 02 p0080 N74-20622 (stem 01 p0023 N74-13538 02 p0069 N74-18597 (ment: A set of 02 p0075 N74-19615 (y Policy 02 p0082 N74-21619 (its of different |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by means GENTEL, J. R. Characterization of particulates non-regulated emissions from mother characteristics | on poons N74-11739 cost estimates, verformance on poons N74-11852 ad water found in coss on poons N74-15808 cof solar cells on poons N74-24937 and other abile sources and as control devices | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELBY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application | guide for Los 02 p0080 N74-20622 Stem 01 p0023 N74-13538 02 p0069 N74-18597 Thent: A set of 02 p0075 N74-19615 Y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] GARRISON, G. W. Development of design criteria, cand schedules for an MRD high particular demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane profiber-type-76] GAVEIL, S. Direct energy conversion by means GENTEL, J. R. Characterization of particulates non-regulated emissions from mother effects of exhaust emission on these chissions [PB-224243/661] | 01 p0015 N74-11739 cost estimates, performance 01 p0017 N74-11852 and water found in seess 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other abile sources and | [NASA-CR-134513] GRAUBARD. H. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAVEN, R. H. Calculations on a solar energy sy [LBL-1773] GREZERY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual compo | 9 9 1 3 6 7 4 - 20406 9 9 1 3 6 7 4 - 20622 1 5 5 6 7 7 4 - 13538 9 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by means GENTEL, J. R. Characterization of particulates non-regulated emissions from mo these crissions [PB-224243/6G1] GEORGE, D. W. | O1 p0015 N74-11739 cost estimates, cerformance O1 p0017 N74-11852 ad water found in cess O2 p0049 N74-15808 c of solar cells O2 p0040 A74-24937 and other bile sources and c control devices O2 p0066 N74-18294 | [NASA-CR-134513] GRAUBARD, H. H. Coping with the fuel shortage: Angeles residents [P-5154] GRAVEN, R. H. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual componing their mechanical arrangement on | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-18597 ment: A set of 02 p0075 N74-19615 y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] GARRISON, G. W. Development of design criteria, cand schedules for an MHD high particulation experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane profiber-TFR-76] GAVRIL, S. Direct energy conversion by Beans GENTEL, J. R. Characterization of particulates non-regulated emissions from mother effects of exhaust emission on these chissions [PB-224243/664] GEORGE, D. W. Alternative energy sources: A refoom- | O1 p0015 N74-11739 cost estimates, cerformance O1 p0017 N74-11852 ad water found in cess O2 p0049 N74-15808 c of solar cells O2 p0040 A74-24937 and other bile sources and c control devices O2 p0066 N74-18294 | [NASA-CR-134513] GRAUBARD. H. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAVEN, R. H. Calculations on a solar energy sy [LBL-1773] GREZERY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual compo | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-18597 ment: A set of 02 p0075 N74-19615 y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an BHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by means GENTEL, J. R. Characterization of particulates non-regulated emissions from mo these crissions [PB-224243/6GA] GEORGE, D. W. Alternative energy sources: A re [CONF-730560-1] GERSHENN, I. I. | O1 p0015 N74-11739 cost estimates, cerformance O1 p0017 N74-11852 ad water found in cess O2 p0049 N74-15808 cof solar cells O2 p0040 A74-24937 and other chile sources and as control devices O2 p0066 N74-18294 cesarch challenge | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAVEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual component of the merchanical arrangement on operating behaviour of dual cyclengines | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-18597 ment: A set of 02 p0075 N74-19615 y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by means GENTEL, J. R. Characterization of particulates non-regulated emissions from mo the effects of exhaust emission on these crissions [PB-224243/661] GEORGE, D. W. Alternative energy sources: A re [CONP-730560-1] GERSHMAN, I. I. Multifuel diesel engines | O1 p0015 N74-11739 cost estimates, verformance O1 p0017 N74-11852 ad water found in cess O2 p0049 N74-15808 cof solar cells O2 p0040 A74-24937 and other chile sources and as control devices O2 p0066 N74-18294 csearch challenge O1 p0024 N74-14097 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELBY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual componing their mechanical arrangement on operating behaviour of dual cyclengines GROBBAR, J. | guide for Los 02 p0080 N74-20622 Stem 01 p0023 N74-13538 02 p0069 N74-18597 Thent: A set of 02 p0075 N74-19615 Y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an BHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by means GENTEL, J. R. Characterization of particulates non-regulated emissions from mo these crissions [PB-224243/6GA] GEORGE, D. W. Alternative energy sources: A re [CONF-730560-1] GERSHENN, I. I. | O1 p0015 N74-11739 cost estimates, cerformance O1 p0017 N74-11852 ad water found in cess O2 p0049 N74-15808 cof solar cells O2 p0040 A74-24937 and other chile sources and as control devices O2 p0066 N74-18294 cesarch challenge | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. H. Calculations on a solar energy sy [LBL-1773] GREELSY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energy workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual composite their mechanical arrangement on operating behaviour of dual cyclengines GROBBAR, J. Jet engine exhaust emissions of h | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-13538 02 p0069 N74-18597 ment: A set of 02 p0075 N74-19615 y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by Beans GENTBL, J. R. Characterization of particulates non-regulated emissions from mo these caissions from mo these caissions [PB-224243/661] GEORGER, D. W. Alternative energy sources: A re (CONP-730560-1) GERSHBM, I. I. Hultifuel diesel engines [AD-771198/964] GERSTRM, K. Does research in the field of acc | 01 p0015 N74-11739 cost estimates, cerformance 01 p0017 N74-11852 ad water found in cess 02 p0049 N74-15808 c of solar cells 02 p0040 A74-24937 and other chile sources and cs control devices 02 p0066 N74-18294 csearch challenge 01 p0024 N74-19408 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELBY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual componing their mechanical arrangement on operating behaviour of dual cyclengines GROBBAR, J. | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-18597 02 p0069 N74-18597 ment: A set of 02 p0075 N74-19615 y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, cand schedules for an BHD high particulates for an BHD high particulates from the synthane profit of the synthane profit | 01 p0015 N74-11739 cost estimates, verformance 01 p0017 N74-11852 id water found in coess 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other oblile sources and is control devices 02 p0066 N74-18294 search challenge 01 p0024 N74-14097 02 p0074 N74-19408 conautics have a | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. M. Calculations on a solar energy sy [LBI-1773] GREELBY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energy workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative ner power plants for STOL-aircraft application The influence of individual componition mechanical arrangement on operating behaviour of dual cyclengibes GROBMAN, J. Jet engine exhaust emissions of the commercial aircraft projected to [MASA-TM-X-3007] GRUE, C. | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-13538 02 p0069 N74-18597 ment: A set of 02 p0075 N74-19615 y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, c and schedules for an MHD high p demonstration experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane pro [BM-TPR-76] GAVRIL, S. Direct energy conversion by Beans GENTBL, J. E. Characterization of particulates non-regulated emissions from mo these caissions from mo these caissions [PB-224243/661] GEORGER, D. W. Alternative energy sources: A re (CONP-730560-1) GERSHBM, I. I. Hultifuel diesel engines [AD-771198/964] GERSTRM, K. Does research in the field of acc | 01 p0015 N74-11739 cost estimates, cerformance 01 p0017 N74-11852 ad water found in cess 02 p0049 N74-15808 c of solar cells 02 p0040 A74-24937 and other chile sources and cs control devices 02 p0066 N74-18294 csearch challenge 01 p0024 N74-19408 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: Angeles residents [P-5154] GRAVEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual component of the compo | guide for Los 02 p0080 N74-20622 stem 01 p0023 N74-18597 02 p0069 N74-18597 nent: A set of 02 p0075 N74-19615 y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 nents and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 ere-hour |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, cand schedules for an MHD high particulates for an HHD high particulates for the energy conversion by means [BM-TPR-76] GAVRIL, S. Direct energy conversion by means [BM-TPR-76] GENTEL, J. R. Characterization of particulates non-regulated emissions from months effects of exhaust emission on these chissions [PB-224243/6GA] GEORGE, D. W. Alternative energy sources: A respectively for the effects of exhaust emission on these chissions [CONP-730560-1] GERSHAN, I. I. Multifuel diesel engines [AD-771198/9GA] GERSTEN, K. Does research in the field of according to t | 01 p0015 N74-11739 cost estimates, verformance 01 p0017 N74-11852 ad water found in coess 02 p0049 N74-1580B cof solar cells 02 p0040 A74-24937 and other chile sources and as control devices 02 p0066 N74-18294 csearch challenge 01 p0024 N74-19408 conautics have a 02 p0041 A74-25723 | [NASA-CR-134513] GRAUBARD, M. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. M. Calculations on a solar energy sy [LBI-1773] GREELBY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energy workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative ner power plants for STOL-aircraft application The influence of individual componition mechanical arrangement on operating behaviour of dual cyclengibes GROBMAN, J. Jet engine exhaust emissions of the commercial aircraft projected to [MASA-TM-X-3007] GRUE, C. | guide for Los 02 p0080 N74-20622 (stem 01 p0023 N74-13538 02 p0069 N74-18597 (ment: A set of 02 p0075 N74-19615 (y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 ere-hour ic separator |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, cand schedules for an MHD high processing the semicor of particulates non-regulated emissions from months of the effects of exhaust emission on these chissions [PB-224243/6GA] GEORGE, D. W. Alternative energy sources: A respectively semicor of the semicor of th | 01 p0015 N74-11739 cost estimates, verformance 01 p0017 N74-11852 id water found in coess 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other oblile sources and is control devices 02 p0066 N74-18294 search challenge 01 p0024 N74-14097 02 p0074 N74-19408 conautics have a | [NASA-CR-134513] GRAUBARD, M. H. H. Coping with the fuel shortage: Angeles residents [P-5154] GRAVEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual component of the second of the second operating behaviour of dual cyclestic engines GROBHAN, J. Jet engine exhaust emissions of the commercial aircraft projected to [NASA-TM-X-3007] GRUEN, C. Construction of 850 and 4,000 amp silver-zinc cells using inorgan [AD-771397] GUBNING, G. D. | 9 9 1 3 6 7 4 - 20622 Stem 01 p0023 N74-13538 02 p0069 N74-18597 ment: A set of 02 p0075 N74-19615 Y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 ere-hour ic separator 02 p0064 N74-17798 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] GRRRISON, G. W. Development of design criteria, cand schedules for an MRD high particulation experiment [AD-766232] GRSIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane profiber of the synthane profiber. [BM-TPR-76] GAVRIL, S. Direct energy conversion by means GENTEL, J. R. Characterization of particulates non-regulated emissions from mother characteristics of exhaust emission on these chissions [PB-224243/6GA] GEORGE, D. W. Alternative energy sources: A recomparison of the effects of exhaust emission on these chissions [BB-2730560-1] GERSHBAN, I. I. Multifuel diesel engines [AD-771198/9GA] GERSTRN, K. Does research in the field of aer future GILMORE, E. Need for a regional wind survey GLASER, P. E. | 01 p0015 N74-11739 cost estimates, verformance 01 p0017 N74-11852 dd water found in cless 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other chile sources and control devices 02 p0066 N74-18294 desearch challenge 01 p0024 N74-19408 conautics have a 02 p0041 A74-25723 02 p0055 N74-16764 | [NASA-CR-134513] GRAUBARD, H. H. Coping with the fuel shortage: A Angeles residents [P-5154] GRAPEN, R. H. Calculations on a solar energy sy [LBL-1773] GREELBY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energy workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual composition mechanical arrangement on operating behaviour of dual cyclengines GROBHAR, J. Jet engine exhaust emissions of the commercial aircraft projected to [NASA-TH-X-3007] GRUE, C. Construction of 850 and 4,000 amp silver-zinc cells using inorgan [AD-771397] | guide for Los 02 p0080 N74-20622 Stem 01 p0023 N74-18597 Ment: A set of 02 p0075 N74-19615 Y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 ere-hour ic separator 02 p0064 N74-17798 States to 1985 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-PET-02] GARRISON, G. W. Development of design criteria, cand schedules for an MHD high processing the semicor of particulates non-regulated emissions from months of the effects of exhaust emission on these chissions [PB-224243/6GA] GEORGE, D. W. Alternative energy sources: A respectively semicor of the semicor of th | 01 p0015 N74-11739 cost estimates, verformance 01 p0017 N74-11852 dd water found in cless 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other chile sources and control devices 02 p0066 N74-18294 desearch challenge 01 p0024 N74-19408 conautics have a 02 p0041 A74-25723 02 p0055 N74-16764 | [NASA-CR-134513] GRAUBARD, M. H. H. Coping with the fuel shortage: Angeles residents [P-5154] GRAPEN, R. M. Calculations on a solar energy sy [LBI-1773] GREELBY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual componitating behaviour of dual cyclengines GROBMAR, J. Jet engine exhaust emissions of the commercial aircraft projected to [NASA-TM-X-3007] GRUE, C. Construction of 850 and 4,000 amp silver-zinc cells using inorgan [AD-771397] GUNNING, G. D. Outlook for energy in the United | 9 9 1 3 6 7 4 - 20622 Stem 01 p0023 N74-13538 02 p0069 N74-18597 ment: A set of 02 p0075 N74-19615 Y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 ere-hour ic separator 02 p0064 N74-17798 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] GRRHSON, G. W. Development of design criteria, cand schedules for an MRD high particulation experiment [AD-766232] GRSIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane profiled | 01 p0015 N74-11739 cost estimates, verformance 01 p0017 N74-11852 dd water found in cless 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other chile sources and ds control devices 02 p0066 N74-18294 dsearch challenge 01 p0024 N74-19408 conautics have a 02 p0041 A74-25723 02 p0055 N74-16764 devet future 01 p0001 A74-11020 | [NASA-CR-134513] GRAUBARD, M. H. H. Coping with the fuel shortage: Angeles residents [P-5154] GRAVEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual component of the second of the second operating behaviour of dual cyclestic engines GROBHAN, J. Jet engine exhaust emissions of the commercial aircraft projected to [NASA-TM-X-3007] GRUEN, C. Construction of 850 and 4,000 amp silver-zinc cells using inorgan [AD-771397] GUBNING, G. D. | guide for Los 02 p0080 N74-20622 Stem 01 p0023 N74-18597 Ment: A set of 02 p0075 N74-19615 Y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 ere-hour ic separator 02 p0064 N74-17798 States to 1985 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] GARRISON, G. W. Development of design criteria, cand schedules for an MHD high particulation experiment [AD-766232] GASIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane profiber of the synthane synthan | 01 p0015 N74-11739 cost estimates, verformance 01 p0017 N74-11852 dd water found in cless 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other chile sources and ds control devices 02 p0066 N74-18294 dsearch challenge 01 p0024 N74-19408 conautics have a 02 p0041 A74-25723 02 p0055 N74-16764 devet future 01 p0001 A74-11020 | [NASA-CR-134513] GRAUBARD, M. H. H. Coping with the fuel shortage: Angeles residents [P-5154] GRAVEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual component of the environ operating behaviour of dual cyclestic mer graphs and statement of the compensation GROBMAR, J. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TM-X-3007] GRUEN, C. Construction of 850 and 4,000 amp silver-zinc cells using inorgan [AD-771397] GUBNING, G. D. Outlook for energy in the United | guide for Los 02 p0080 N74-20622 Stem 01 p0023 N74-18597 Ment: A set of 02 p0075 N74-19615 Y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 ere-hour ic separator 02 p0064 N74-17798 States to 1985 |
| GRHHEL, G. A novel method of cooling semicor for power electronics [BMFT-FBT-02] GRRHSON, G. W. Development of design criteria, cand schedules for an MRD high particulation experiment [AD-766232] GRSIOR, S. J. Analyses of tars, char, gases, an effluents from the synthane profiled | 01 p0015 N74-11739 cost estimates, verformance 01 p0017 N74-11852 dd water found in cless 02 p0049 N74-15808 cof solar cells 02 p0040 A74-24937 and other chile sources and ds control devices 02 p0066 N74-18294 dsearch challenge 01 p0024 N74-19408 conautics have a 02 p0041 A74-25723 02 p0055 N74-16764 devet future 01 p0001 A74-11020 | [NASA-CR-134513] GRAUBARD, M. H. H. Coping with the fuel shortage: Angeles residents [P-5154] GRAVEN, R. M. Calculations on a solar energy sy [LBL-1773] GREELEY, R. S. Environmental issues, an overview Energy, resources and the environ presentations [M73-61] Background material for the Energ Workshop, 11-12 January 1973 [M73-12] GRIEB, H. Investigation of the relative mer power plants for STOL-aircraft application The influence of individual component of the environ operating behaviour of dual cyclestic mer graphs and sending the environment of the environ GROBMAR, J. Jet engine exhaust emissions of the commercial aircraft projected to [NASA-TM-X-3007] GRUEN, C. Construction of 850 and 4,000 amp silver-zinc cells using inorgan [AD-771397] GUBNING, G. D. Outlook for energy in the United | guide for Los 02 p0080 N74-20622 (stem 01 p0023 N74-18597 (ment: A set of 02 p0075 N74-19615 (y Policy 02 p0082 N74-21619 its of different with blown flap 02 p0078 N74-20406 ments and of the stationary le propulsion 02 p0079 N74-20444 igh altitude 0 1990 02 p0079 N74-20591 ere-hour ic separator 02 p0064 N74-17798 States to 1985 01 p0032 N74-15697 |

| | • | | |
|---|---|---|-------------------------------------|
| GUTERIE, p. P. Energy research and development: | A selected | HAYES, J. H. Petroleum: A prediction made in | 1950 |
| reading list [ORNL-EIS-73-65-REV-1] | 01 p0022 N74-12695 | [P-5135] HAYERS, W. P. | 02 p0065 N74-18194 |
| NSF-RADN energy abstracts: A mor | nthly abstract | Analyses of tars, char, gases, an effluents from the synthane pro | cess |
| [ORNL-BIS-73-52-VOL-1-NO-9] Energy research and development: | 02 p0062 N74-17680 A selected | [BM-TPR-76] HAYS, L. G. | 02 p0049 N74-15808 |
| reading list [ORNL-EIS-73-65] GIFTOPODLOS, B. P. | 02 p0080 N74-20627 | Liquid metal magnetohydrodynamics technology transfer feasibility 1: Summary | study. Volume |
| Thermionic energy conversion. Volume and devices | | [BASA-CR-136197] Liquid metal magnetohydrodynamics | |
| | 01 p0004 A74-14327 | technology transfer feasibility 2: Appendixes | study, Volume 01 p0023 874-13467 |
| · H | | [NASA-CR-136198] HAZARD, B. R. | - |
| #AIGLER, L. B. Classification of public lands va | lamble for | Conversion of fuel nitrogen to NO combustor | x in a compact |
| questingation of public lands verified and associated resources | | (ASME PAPER 73-WA/GT-2) HEAL, N. B. | 01 p0002 A74-13293 |
| | 02 p0049 N74-16049 | Electricity: The conversion indu [NP-19837] | stry 02 p0072 N74-18730 |
| Potential pollutants in fossil for [PB-225039/7GA] | 02 p0066 N74-18313 | HEALY, T. Electric energy requirements for | |
| HALL, R. R. Proceedings, Coal Combustion Semi | inar | protection {CONF-730205-4] ERIDTHARN, U. | 01 p0027 N74-14695 |
| [PB-224210/5GA] HALL, T. W. | | A novel method of cooling semicon | ductor devices |
| General aviation cost impact stude Executive summary | | for power electronics [BMFT-FBT-02] | 01 p0015 N74-11739 |
| General aviation cost impact stud | 02 p0062 N74-17779 ly. Volume 2: | HEMPHILL, W. R. Quantification of the luminescence natural materials | e intensity of |
| Research methodology [AD-771606] General aviation cost impact stud | 02 p0062 N74-17780 | HENNE, R. | 01 p0005 A74-14892 |
| Planning guide | | Recent developments in the field | |
| [AD-771759] BANKER, M. J. California's electricity quandary | 02 p0062 N74-17781 | power conversion and its possib power supply systems in space a [DGLR PAPER 73-092] | nd on earth 01 p0005 A74~17195 |
| the growth rate | 02 p0054 N74-16680 | HENRY, H. R. Investigations using data in Alab | ama from ERTS-A |
| HANDLEY, L. H. Study of fuel cell system for por | vered balloon | HENRY, J. R. | 01 p0023 N74-13051 |
| HANSPORD, E. F. | 01 p0009 N74~10083 | Design considerations for the air scramjet | |
| Bearings for power station plant. bibliography, 1960 - September | . A selective 1973 02 p0073 N74~19113 | [KASA-TH-X-2895] BEROFERUS, W. A proposed national wind power R | 01 p0019 N74-12448 |
| [CE-BIB-28B.1] HAMSOM, J. A. A problem statement: Ocean bases | | BERRIN, E. | 02 роб59 н74-16794 |
| solar-to-hydrogen energy conver | | Development of geothermal reserve over-pressured areas beneath th plain of Texas. A feasibility s | e Gulf'coastal |
| Low NOx emission combustor develor automobile gas turbine engines | | production from overpressured r [AD-766855] | |
| [PB-225133/8GA] HAO, B. R. | 02 p0067 N74-18414 | Quantification of the luminescence | e intensity of . |
| Experimental determination of dyn characteristics of hydrogen ox | | natural materials HEWIG, G. H. | 01 p0005 A74-14892 |
| systems | 01 p0009 N74-10074 | On inhomogeneities of thin film s | olar cells 02 p0039 A74-24918 |
| HART, R. E., JR. The multiple junction edge illus: [NASA-TE-Y-71476] | inated solar cell 01 p0012 N74-10947 | BEWSON, B. W. Wind power research at Oregon Sta | - |
| HASSAW, KE. Theoretical performance of cyline solar concentrators | drical parabolic | HICKS, G. V. Brergy statistics: A supplement | - |
| RATSOPOULOS, G. B. | 01 p0001 A74-10026 | national transportation statist [PB-225331/8Ga] | |
| Thermionic energy conversion. Vo. | | HILTS, F. H. Purification of fuel oils by cent | |
| HAUSER, L. G. | 01 p0004 A74~14327 | EIRST, E. | 02 p0034 A74-20216 |
| The effect of fuel availability of programs in power generation | - | Electric energy requirements for protection | 7 |
| BAUSGARD, O. | 01 p0031 N74-15689 | [CONF-730205-4] BOCH, R. | 01 p0027 N74-14695 |
| Consumption of energy in New York (with estimates for 1973) | • | Performance and noise aspects of transport | • |
| [OER-19] | 02 p0079 N74-20614 | HOPPHAN, A. C. | 01 p0003 A74-13798 |
| Use of hydrogen and hydrogen-ric means of storing and transport: | | High voltage solar cell power ger for regulated solar array devel [AIAA PAPER 73-1105] | |
| BAYDER, J. T. Magnetic suspension and guidance | _ | HOLDER, R. C. Low NOw emission combustor develo | |
| vehicles | | automobile gas turbine engines | |
| [CTS-2] | 02 p0072 N74-18892 | [PB-225133/8GA] | 02 p0067 h74~18414 |

| Oxidation of carbon monoxide in di | iluted combustion | • | |
|--|--|---|--|
| products at engine idling condi- | tions | J | * |
| soly, z. J. | 02 p0041 174-25221 | JACOBS, H. L. Experience with Jacobs wind-drive | en electric |
| Energy situation and nuclear power | F | generating plant, 1931 - 1957 | 00 -0050 974-15705 |
| [#P-19838] | 01 p0029 N74-15391 | TARMEDE D | 02 p0058 N74-16786 |
| HORIGSBAUD, F. R. The synchronous EFD device | | JANTEEN, R. Aviation fuels and lubricants | |
| HOWNER, R. | 01 p0024 N74-13759 | JOENS, H. | 01 p0006 A74-18180 |
| High wind power plants | 20 | a novel method of cooling semicor | ductor devices |
| (NASA-TT-F-15444] HORELICK, A. L. | 02 p0077 N74-19709 | for power electronics [BMFT-FBT-02] | 01 p0015 N74-11739 |
| The Soviet Union, the Middle East evolving world energy situation | , and the | JOHNSON, G. B. Analyses of tars, char, gases, as | nd water found in |
| [P-5109] HORTOW, T. R. | 02 p0054 N74-16675 | effluents from the synthane pro | ocess 02 p0049 874-15808 |
| The production of liquid hydrogen Propulsion Establishment | at the Rocket | JOHNSON, J. B. Storage and transportation of syl | nthetic fuels. A |
| [RPE-TR-71/17] HOUBEN, J. W. S. A. | 02 p0061 N74-16996 | report to the synthetic fuels [ORNL-TM-4307] | panel 01 p0030 N74-15448 |
| Loss rechanisms in an MHD generate | or | JOHNSTON, A. A. | • |
| | 02 p0033 a74-19455 | Performance of Army engines with | |
| HSO, Y. Y. | | unleaded gasoline. Phase 1: 1 [AD-766760] | Laboratory testing 02 p0061 N74-17523 |
| Clean fuels from biomass [NASA-TM-X-71538] | 02 p0077 N74-19706 | JOHRS, L. W. | |
| HUBER, E. B. Energy research and development: | A selected | Liquid hydrogen as a fuel for mo- comparison with other systems | tor vehicles; a |
| reading list | | INCUPA D | 02 p0074 N74-19391 |
| [ORNL-EIS-73-65-REV-1] Energy research and development: | 01 p0022 N74-12695 A selected | JUCHEA, P. The present status of Honnef wind | I power plants |
| reading list | | [NASA-TT-F- 15355] | 02 p0063 N74-17787 |
| [ORNI-BIS-73-65] HUDDIB, P. P. | 02 p0080 N74-20627 | JOOL, J. Investigation of the possibilities | es of using wind |
| The evolution and dynamics of nat: the United States | ional goals in | power [NASA-TT-P-15336] | 02 p0047 X74~15760 |
| HUEBNER, R. W. | 02 p0053 N74-16666 | Supplement to the report on the meith SEAS' experimental mill | |
| United States petroleum situation [AD-761576] | through 1980 02 p0054 N74-16691 | [NASA-TT-F-15516] JUDLS, J. | 02 p0081 N74-20700 |
| HOGHES, W. L. | <u>-</u> | Application of wind power to rat: | ional generati <i>o</i> n |
| Energy storage using high pressur- and methods for reconversion | e electrolysis | of electricity [NASA-TT-F-15334] | 02 p0047 N74-15759 |
| | 02 p0057 N74-16780 | | |
| · | 05 60021 W.4-10100 | | |
| BUTCHISON, V. V. | | K | |
| Selected list of Bureau of Mines | publications on | KARB, E. | |
| | publications on | | source use 02 p0068 %74-18586 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on ro | publications on -1970 01 p0032 N74-15691 tational speed | RARD, E. | 02 p0068 N74-18586 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-r-15184] | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 | RAME, H. RODONIC basis for energy and re- RODONIC basis for energy and re- RODONIC BASIS FOR ENERGY AND RE- | 02 p0068 N74-18586 02 p0068 N74-18590 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe | RAHH, H. Economic basis for energy and re- Remarks KANEBARCK, H. Combustion of the gases methane, | 02 p0068 N74-18586 02 p0068 N74-18590 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTEB, U- Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 | RAME, H. RODONIC basis for energy and re- RODONIC basis for energy and re- RODONIC BASIS FOR ENERGY AND RE- | 02 p0068 N74-18586 02 p0068 N74-18590 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-r-15184] | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences | RAMM, M. Romanks KANEBABCK, H. Combustion of the gases methane, ammonia in a mixing reactor | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] HUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g Some extemporaneous comments on o with towers for wind generators HWAMG, C. C. | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences | RAMM, M. Romanks KANEBABCK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-83] RARLIM, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BOTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-r-15184] Past developments of large wind g Some extemporaneous comments on o with towers for wind generators HUANG, C. C. Light bulb heat exchanger for mag | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic | RAHH, H. Reconomic basis for energy and re- Remarks KANEBARCK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-83] RARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPERKO, I. V. | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 N74-27833 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] HUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g Some extemporaneous comments on o with towers for wind generators HWAMG, C. C. | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic | RAMM, M. Romanks KANEBABCK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-83] RARLIM, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 N74-27833 battery |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g. Some extemporaneous comments on o with towers for wind generators HUANG, C. C. Light bulb heat exchanger for mag generator applications - Prelim | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation | RAHH, H. Ronarks KAHBBARCK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-H3] KARITH, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestri- KAS*IANOV, V. A. | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 N74-27833 battery al use units 02 p0038 N74-24912 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g Some extemporaneous comments on o with towers for wind generators HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation | RAME, E. Remarks KAHEBABCK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-83] KARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KAMPENKO, I. V. Possibilities of the thin solar applications for the terrestrict KAS'IAMOV, V. A. On the theory of alternating-cur. | 02 p0068 N74-18586 02 p0068 N74-18590 LF gas and 01 p0022 N74-12824 re a choice 02 p0043 N74-27833 battery al use units 02 p0038 N74-24912 rent |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g Some extemporaneous comments on o with towers for wind generators HUANG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 | RAHH, H. Ronarks KAHBBARCK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-H3] KARITH, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestri- KAS*IANOV, V. A. | 02 p0068 N74-18586 02 p0068 N74-18590 LF gas and 01 p0022 N74-12824 re a choice 02 p0043 N74-27833 battery al use units 02 p0038 N74-24912 rent |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g Some extemporaneous comments on o with towers for wind generators HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 | RAME, E. Remarks KAMEBARCK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-E3] KARLIN, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KAMPENKO, I. V. Possibilities of the thin solar applications for the terrestri KAS'IANOV, V. A. On the theory of alternating-cur electrofluiddynamic converters | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 N74-27833 battery al use units 02 p0038 N74-24912 rent 01 p0007 N74-18988 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] HOTTER, U. Influence of wind frequency on roadjustments of windmill generat [WASA-TT-F-15184] Past developments of large wind generators on o with towers for wind generators HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [WASA-TW-D-7534] INGEBO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [WASA-TW-X-3007] | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 | RAME, E. Remarks KANEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-83] RARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' IABOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bama | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 N74-27833 battery al use units 02 p0038 N74-24912 rent 01 p0007 N74-18988 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g Some extemporaneous comments on o with towers for wind generators HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TN-X-3007] ISBINO, M. Investigation of silicon photoele | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude o 1990 02 p0079 N74-20591 | RAME, E. Remarks KANEBARCK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-H3] KARLIN, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' IANOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bana a silicon solar cell panel | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 N74-27833 battery al use units 02 p0038 N74-24912 rent 01 p0007 N74-18988 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g. Some extemporaneous comments on o with towers for wind generators BUANG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGEBO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TN-X-3007] ISBIRO, M. | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude o 1990 02 p0079 N74-20591 | RAME, E. Remarks KANEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-83] RARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' IABOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bama | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery al use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g. Some extemporaneous comments on o with towers for wind generators. HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TN-X-3007] ISHINO, M. Investigation of silicon photoele precision photodetectors [NRC-TT-1686] IVANOY, A. | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude 0 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 | RAME, E. Remarks KANEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [F0A-1-C-1442-83] RARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' IABOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bama a silicon solar cell panel KELLER, W. B. | 02 p0068 N74-18586 02 p0068 N74-18590 IF gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery al use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid and future |
| Selected list of Bureau of Mines petroleum and natural gas, 1961; [BM-IC-8534] HOTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g. Some extemporaneous comments on o with towers for wind generators. HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TN-X-3007] ISRINO, M. Investigation of silicon photoele precision photodetectors [NRC-TT-1686] IVANOV, A. DC generator for Kolkhoz wind pow | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude o 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 ered generators | RAME, E. Remarks KANEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [F0A-1-C-1442-83] KARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' INBOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bama a silicon solar cell panel KELLER, W. B. Cryogenic instrumentation at and hydrogen temperature - Present | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery al use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g. Some extemporaneous comments on o with towers for wind generators HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TN-X-3007] ISHINO, M. Investigation of silicon photoele precision photodetectors [NRC-TT-1686] IVANOY, A. DC generator for Kolkhoz wind pow [NASA-TT-F-15347] IVANOY, A. A. A. | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude o 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 ered generators 02 p0063 N74-17786 | RAME, E. Remarks KAMEBAECK, B. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-B3] RARLIM, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KAMPENKO, I. V. Possibilities of the thin solar applications for the terrestricks IANOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bana a silicon solar cell panel KELLER, W. B. Cryogenic instrumentation at and | 02 p0068 N74-18586 02 p0068 N74-18590 IF gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery all use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid and future 01 p0003 A74-14057 zation |
| Selected list of Bureau of Mines petroleum and natural gas, 1961: [BM-IC-8534] HOTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g Some extemporaneous comments on o with towers for wind generators HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TN-X-3007] ISHINO, M. Investigation of silicon photoele precision photodetectors [NRC-TT-1686] IVANOV, A. DC generator for Kolkhoz wind pow [NASA-TT-F-15347] IVANOV, A. A. Lines of development of rural win | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude 0 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 ered generators 02 p0063 N74-17786 d power plants | RAME, E. Remarks KANEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [F0A-1-C-1442-83] KARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' INBOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bama a silicon solar cell panel KELLER, W. B. Cryogenic instrumentation at and hydrogen temperature - Present KELLEY, H. J. Aircraft symmetric flight optimi | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery al use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid and fature 01 p0003 A74-14057 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g. Some extemporaneous comments on o with towers for wind generators HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TN-X-3007] ISHINO, M. Investigation of silicon photoele precision photodetectors [NRC-TT-1686] IVANOY, A. DC generator for Kolkhoz wind pow [NASA-TT-F-15347] IVANOY, A. A. A. | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude o 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 ered generators 02 p0063 N74-17786 | RAME, E. Ronarks KAMEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-H3] KARLIN, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' IAMOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KRITA, L. Trapping of solar energy at Bana a silicon solar cell panel KELLER, W. B. Cryogenic instrumentation at and hydrogen temperature - Present | 02 p0068 N74-18586 02 p0068 N74-18590 IF gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery al use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid and future 01 p0003 A74-14057 zation 02 p0036 A74-23091 plications |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind grome extemporaneous comments on o with towers for wind generators HWAME, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGEBO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TM-X-3007] ISHINO, M. INVESTIGATION Of silicon photoele precision photodetectors [NRC-TT-1686] IVANOV, A. Lines of development of rural win [NASA-TT-F-15513] IVANOV, N. I. Forecasting of technological prog | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude 0 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 ered generators 02 p0063 N74-17786 d power plants 02 p0081 N74-20701 ress for | RAME, E. Remarks KANEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [F0A-1-C-1442-83] KARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' INBOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bama a silicon solar cell panel KELLER, W. B. Cryogenic instrumentation at and hydrogen temperature - Present KELLEY, H. J. Aircraft symmetric flight optimi KELLY, B. P. Investigation of photovoltaic ap | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery all use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid and future 01 p0003 A74-14057 zation 02 p0036 A74-23091 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961 [BM-IC-8534] BUTTER, U Influence of wind frequency on roadjustments of windmill generat [NASA-TT-F-15184] Past developments of large wind g. Some extemporaneous comments on o with towers for wind generators. HWAMG, C. C. Light bulb heat exchanger for mag generator applications - Prelim [NASA-TN-D-7534] INGREO, R. D. Jet engine exhaust emissions of h commercial aircraft projected t [NASA-TN-X-3007] ISHINO, M. Investigation of silicon photoele precision photoeletectors [NRC-TT-1686] IVANOV, A. DC generator for Kolkhoz wind pow [NASA-TT-F-15347] IVANOV, A. A. Lines of development of rural win [NASA-TT-F-15513] IVANOV, W. I. | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude o 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 ered generators 02 p0063 N74-17786 d power plants 02 p0081 N74-20701 ress for perations at coal | RAME, E. Remarks KAMEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-H3] KARLIN, J. J. Solar vs. nuclear power - Is the [ATAM PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestri KAS'IAMOV, V. h. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bama a silicon solar cell panel KELLER, W. E. Cryogenic instrumentation at and hydrogen temperature - Present KELLEY, H. J. Aircraft symmetric flight optimi KELLY, B. P. | 02 p0068 N74-18586 02 p0068 N74-18590 IF gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery all use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid and future 01 p0003 A74-14057 zation 02 p0036 A74-23091 plications 02 p0040 A74-24939 |
| Selected list of Bureau of Mines petroleum and natural gas, 1961: [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generatives of windmill generatives of the state of large wind grant (NASA-TT-F-15184) Past developments of large wind grant developments on or with towers for wind generators BUANG, C. C. Light bulb heat exchanger for mag generator applications - Prelim (NASA-TN-D-7534) INGEBO, R. D. Jet engine exhaust emissions of hemomercial aircraft projected townsercial aircraft pr | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude 0 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 ered generators 02 p0063 N74-17786 d power plants 02 p0081 N74-20701 ress for | RAME, E. Remarks KANEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [F0A-1-C-1442-83] KARLIB, J. J. Solar vs. nuclear power - Is the [AIAA PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' INBOV, V. A. On the theory of alternating-cur electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bama a silicon solar cell panel KELLER, W. B. Cryogenic instrumentation at and hydrogen temperature - Present KELLEY, H. J. Aircraft symmetric flight optimi KELLY, B. P. Investigation of photovoltaic ap KELLY, T. J. Solar power for our nation | 02 p0068 N74-18586 02 p0068 N74-18590 IF gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery al use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid and future 01 p0003 A74-14057 zation 02 p0036 A74-23091 plications |
| Selected list of Bureau of Mines petroleum and natural gas, 1961: [BM-IC-8534] BUTTER, U. Influence of wind frequency on roadjustments of windmill generatives of windmill generatives of the state of large wind grant (NASA-TT-F-15184) Past developments of large wind grant developments on or with towers for wind generators BUANG, C. C. Light bulb heat exchanger for mag generator applications - Prelim (NASA-TN-D-7534) INGEBO, R. D. Jet engine exhaust emissions of hemomercial aircraft projected townsercial aircraft pr | publications on -1970 01 p0032 N74-15691 tational speed ors 01 p0012 N74-10948 enerators in Europe 02 p0055 N74-16761 ur experiences 02 p0059 N74-16796 netohydrodynamic inary evaluation 02 p0067 N74-18557 igh altitude o 1990 02 p0079 N74-20591 ctric cells as 01 p0010 N74-10199 ered generators 02 p0063 N74-17786 d power plants 02 p0081 N74-20701 ress for perations at coal | RAME, E. Remarks KAMEBAECK, H. Combustion of the gases methane, ammonia in a mixing reactor [FOA-1-C-1442-H3] KARLIN, J. J. Solar vs. nuclear power - Is the [ATAM PAPER 74-489] KARPENKO, I. V. Possibilities of the thin solar applications for the terrestricks' IANOV, V. A. On the theory of alternating-cur- electrofluiddynamic converters KEITA, L. Trapping of solar energy at Bana a silicon solar cell panel KELLER, W. R. Cryogenic instrumentation at and hydrogen temperature - Present KELLEY, H. J. Aircraft symmetric flight optimi KELLY, B. P. Investigation of photovoltaic ap KELLY, T. J. | 02 p0068 N74-18586 02 p0068 N74-18590 LP gas and 01 p0022 N74-12824 re a choice 02 p0043 A74-27833 battery all use units 02 p0038 A74-24912 rent 01 p0007 A74-18988 ko with the aid of 02 p0041 A74-25481 above liquid and fature 01 p0003 A74-14057 zation 02 p0036 A74-23091 plications 02 p0040 A74-24939 01 p0004 A74-14465 |

| KERN, J. | | KOLTUB, H. H. |
|--|---|--|
| Aviation fuels and lubricants | , | Optical coatings for semiconductor photowoltaic |
| ### | 01 p0006 A74-18180 | converters and solar energy concentrators |
| KIRLY, E. P. | -E - | 02 p0039 a74-24924 |
| Dynamic model wind tunnel tests yariable-diameter, telescoping | | ROBAR, C. A. Directional properties of coal and their |
| system (TRAC rotor) | - Diage LOCOL | utilization in underground gasification |
| [AD-771037] | 02 p0061 N74-17764 | experiments |
| KINNARB, G. G. | *************************************** | [BM-TPR-73] 01 p0018 N74-12159 |
| Econometric models: Their appli | cation to the | KONSTANTINOVA, E. |
| economic and energy sectors | | Photoelectric converters based on Various CdS |
| [CB-BIB-220] | 02 p0062 N74-17660 | heterojunctions |
| KINSHAN, P. B. | | 02 p0042 174-27752 |
| ERTS-1 imagery use in reconnaiss | | KOROBAN, N. T. State-of-the-art and prospects of Wagnetoelectric |
| Evaluation of the commercial u imagery in structural reconnai | | machines for self-contained electrical supply |
| Binerals and petroleum | asauce for | systems and controllable electrical drivers . |
| [E74-10007] | 01 p0013 ¥74-11148 | [AD-773893] 02 g0081 X74-20703 |
| ERTS-1 imagery use in reconnaiss | | REASHOV, V. I. |
| Evaluation of commercial utili | | Optimization of the power of Faraday MHD |
| imagery in structural reconnai | | generators operating on nonequilibrium plasma |
| minerals and petroleum | | 01 p0003 474-13943 |
| | 02 p0082 N74-20948 | KRETSCHEER, D. |
| KIRBY, K. D. | | Modelling of combustors - The effects of ambient |
| Satellite nuclear power station: | An engineering | Conditions upon performance |
| analysis | 01 p0002 A74-13234 | 02 p0040 174-25217 |
| KIRCHHOF, W. | 01 POODE #14-13234 | KROMANN, C. Investigation of the possibilities of using wind |
| The solar generator of the telec | ommunication | power |
| satellite Symphonie | | [NASA-TT-F-15336] 02 90047 N74-15760 |
| · · · · · · · · · · · · · · · · · · · | 02 p0039 A74-24933 | KUSKO, A. |
| KIRILLIE, V. A. | - | Power conditioning system for FAA Air Route |
| Thermal cycle and efficency of a | | Traffic Control Centers |
| unit with a magnetohydrodynami | c generator and | 01 p0004 A74-14133 |
| thermoelectric generator | | Power conditioning system for PAA air route |
| [JPRS-61359] | 02 p0071 N74-18723 | traffic control centers |
| EIRILLINA, V. A. | toisis a slagtminsl | 01 p0019 N74-12636 |
| Magnetohydrodynamic method of ob energy (collected articles) | taining electrical | RYVAN, C. P. Determination of optimal air pollution control |
| [AD-765933] | 01 p0011 N74-10681 | strategies |
| RIRILLOV, V. V. | 01 pour 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 02 p0073 %74-19229 |
| Characteristics of a nonequilibr | ing MHD generator | |
| | | |
| • | 01 p0005 A74-17439 | |
| KLOSS, H. | | L |
| High powered electrical power ge | | LACKEY, M. B. |
| High powered electrical power gemotors | neration by wind | Second iteration analysis of a fossil fuel-fired |
| <pre>High powered electrical power ge motors [NASA-TT-F-15303]</pre> | neration by wind 02 p0045 N74-15739 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle |
| High powered electrical power gemotors [MSA-TT-F~15303] Problems in the electrical equip | neration by wind 02 p0045 N74-15739 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORML-WSF-EP-39] 01 p0019 874-12577 |
| High powered electrical power ge- motors [NASA-TT-F-15303] Problems in the electrical equip plants | neration by wind 02 p0045 H74-15739 ment of wind power | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNI-MSF-EP-39] 01 p0019 N74-12577 LACROIX, G. |
| High powered electrical power gemotors [NASA-TT-F~15303] Problems in the electrical equip plants [NASA-TT-F~15312] | neration by wind 02 p0045 H74-15739 ment of wind power 02 p0046 H74-15749 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNL-WSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy |
| High powered electrical power ge- motors [NASA-TT-F-15303] Problems in the electrical equip plants | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNL-MSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 |
| High powered electrical power gemotors [NMSA-TT-F-15303] Problems in the electrical equip plants [NMSA-TT-F-15312] The direct driving of synchronou | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by wer generating | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNL-MSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 |
| High powered electrical power gemotors [NMSA-TT-F-15303] Problems in the electrical equip plants [NMSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation was not be synchronizing network, part 1 | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by wer generating ith a | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 N74-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 g0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LANS, D. Y. |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] | neration by wind 02 p0045 H74-15739 ment of wind power 02 p0046 H74-15749 s generators by wer generating ith a 02 p0047 N74-15757 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-WSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 874-15764 Wind power, part 2 - economic feasibility, 1949 [BASA-TT-F-15419] 02 p0063 874-17792 LAMB, D. V. A critical review of mathematical diffusion |
| High powered electrical power gemotors [NASA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation was synchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to | neration by wind 02 p0045 R74-15739 ment of wind power 02 p0046 R74-15749 s generators by wer generating ith a 02 p0047 R74-15757 directly drive | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNL-MSF-EP-39] 01 p0019 N74-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-P-15419] 02 p0063 N74-17792 LANB, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality |
| High powered electrical power generators [NASA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to synchronous generators in para | neration by wind 02 p0045 R74-15739 ment of wind power 02 p0046 R74-15749 s generators by wer generating ith a 02 p0047 R74-15757 directly drive | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 g0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. 1 critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation |
| High powered electrical power gemotors [NMSA-TT-F-15303] Problems in the electrical equip plants [NMSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation w synchronizing network, part 1 [NMSA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-P-15419] 02 p0063 N74-17792 LANB, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 |
| High powered electrical power gemotors [NASA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation w synchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [NASA-TT-F-15343] | neration by wind 02 p0045 R74-15739 ment of wind power 02 p0046 R74-15749 s generators by wer generating ith a 02 p0047 R74-15757 directly drive | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNI-MSF-EP-39] 01 p0019 N74-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 00047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15449] 02 p0063 N74-17792 LAMB, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor webicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LAMDSHAM, A. F. |
| High powered electrical power gemotors [NMSA-TT-F-15303] Problems in the electrical equip plants [NMSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation w synchronizing network, part 1 [NMSA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, 6. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. 1 critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering |
| High powered electrical power gemotors [NASA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation waynchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [NASA-TT-F-15343] KLOM, D. L. | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNI-MSF-EP-39] 01 p0019 N74-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 00047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15449] 02 p0063 N74-17792 LAMB, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor webicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LAMDSHAM, A. F. |
| High powered electrical power generators [NASA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NASA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, 6. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, |
| High powered electrical power generotors [NASA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [NASA-TT-F-15343] KIUM, D. L. Recycling solid waste for utilit recovery of other resources | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74~15765 y fuel and 02 p0071 N74-18725 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAMB, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LAWDSHAM, A. P. Photoelectric power engineering LAWTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation w synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [MSA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, F. Investigation of the relative me. | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 spenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 N74-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAMB, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LAMDSMAM, A. P. Photoelectric power engineering 12 p0039 174-24936 LAMTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 N74-20238 |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants [MSA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [MSA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOL-aircraft | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 spenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, 6. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TB-X-2996] 02 p0078 N74-20238 LAQUER, H. L. |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation w synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [MSA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, F. Investigation of the relative me. | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74~15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASK-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASK-TT-F-15419] 02 p0063 N74-17792 LANB, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASK-TH-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation w synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [MSA-TT-F-15343] KIUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSMANN, W. Investigation of the relative me, power plants for STOL-aircraft application | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 spenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-RP-39] 01 p0019 N74-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAMB, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to meter vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LAMDSMAM, A. P. Photoelectric power engineering 02 p0039 N74-24936 LAWIZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TM-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible |
| High powered electrical power generators [NASA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NASA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative menerators power plants for STOL-aircraft application KLYACHKIRA, A. L. | neration by wind 02 p0045 H74-15739 ment of wind power 02 p0046 H74-15749 s generators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 H74-20406 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, 6. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAN, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching |
| High powered electrical power generotors [NMSA-TT-F-15303] Problems in the electrical equip plants [NMSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation was ynchronizing network, part (NMSA-TT-F-15301) Using large wind power plants to synchronous generators in para with a governing network [NASA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSMANN, W. Investigation of the relative menower plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tu | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASK-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASK-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to Rotor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering LANTI, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 N74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [La-UR-73-910] 02 p0074 N74-19375 |
| High powered electrical power generators [NASA-TT-F-15303] Problems in the electrical equip plants [NASA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NASA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative menerators power plants for STOL-aircraft application KLYACHKIRA, A. L. | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 senerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-16725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, 6. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAN, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching |
| High powered electrical power genotors [MSA-TT-F-15303] Problems in the electrical equip plants in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NASA-TT-F-15343] RLOW, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative member power plants for STOL-aircraft application KLYACHKINA, A. L. Problem of the application of tuair transport. Methods of incefficiency of turbofan engine ratios | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [BASA-TT-P-15419] 02 p0063 N74-17792 LAMB, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LAMDSHAM, A. P. Photoelectric power engineering LAWIZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TM-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [LA-UR-73-910] 02 p0074 N74-19375 LABSON, C. E. |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronon large scale wind electrical poplants in parallel operation w synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [MSA-TT-F-15343] KIUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tu air transport. Methods of inc efficiency of turbofan engine ratios [AD-773292] | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 senerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-16725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [BASA-TT-P-15419] 02 p0063 N74-17792 LAMB, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-16304 LAMDSHAM, A. P. Photoelectric power engineering LAWIZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TM-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [LA-UR-73-910] 02 p0074 N74-19375 LABSON, C. E. Energy options for the future |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants [MSA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NSA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of incefficiency of turbofan engine ratios [AD-773292] KNEW, S. | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, 6. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TM-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [LA-UR-73-910] 02 p0074 N74-19375 LASSON, C. E. Energy options for the future LASTER, L. L. Atmospheric emissions from the petroleum refining |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [NASA-TT-F-15343] RLOW, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative member power plants for STOL-aircraft application KLYACHKINA, A. L. Problem of the application of tuair transport. Methods of incefficiency of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based o | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASK-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASK-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering LANTI, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 X74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching (LA-UR-73-910] 02 p0074 N74-19375 LABSOW, C. E. Energy options for the future UASTER, L. Atmospheric emissions from the petroleum refining industry |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants [MSA-TT-Y-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NSA-TT-F-15343] KLUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of incefficiency of turbofan engine ratios [AD-773292] KNEW, S. | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 senerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-16725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 h various CdS | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-RP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9Ga] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering 02 p0066 N74-18304 LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TT-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching (LA-UR-73-910] 02 p0074 N74-19375 LABSOW, C. E. Energy options for the future 02 p0069 N74-18599 LASTER, L. L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18308 |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [MSA-TT-F-15343] KIOH, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of ince efficiency of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based o heterojunctions | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 s generators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [BASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSHAM, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 N74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [LA-UR-73-910] 02 p0074 N74-19375 LASSON, C. E. Energy options for the future LASTER, L. L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18308 LATISHEV, V. N. |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NASA-TT-F-15343] RLOW, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative menower plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of incefficiency of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based o heterojunctions KORSTLIK, B. | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 n various Cds 02 p0042 N74-27752 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASK-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASK-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering LANTI, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 X74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching (1A-UR-73-910] 02 p0074 N74-19375 LASSON, C. E. Energy options for the future LASTER, L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18305 LATISHEY, V. B. Thermal cycle and efficency of a versatile power |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [MSA-TT-F-15343] KIOH, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of ince efficiency of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based o heterojunctions | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 n various Cds 02 p0042 N74-27752 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [BASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSHAM, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 N74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [LA-UR-73-910] 02 p0074 N74-19375 LASSON, C. E. Energy options for the future LASTER, L. L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18308 LATISHEV, V. N. |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation wasynchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NASA-TT-F-15343] RLOW, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative menower plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of incefficiency of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based on heterojunctions KORSTLIN, H. Present state of the art in conditectnology | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 n various Cds 02 p0042 N74-27752 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASK-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASK-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering LANTI, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 X74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching (1A-UR-73-910] 02 p0074 N74-19375 LASSON, C. E. Energy options for the future LASTER, L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18308 LATISHEV, V. H. Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and thermoelectric generator [JPRS-61359] 02 p0071 N74-18723 |
| High powered electrical power gemotors [MSA-TT-F-15303] Problems in the electrical equip plants [MSA-TT-F-15312] The direct driving of synchronon large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [MSA-TT-F-15301] Using large wind power plants to synchronous generators in para with a governing network [MSA-TT-F-15343] KIUM, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOI-aircraft application KLYACHKIRA, A. L. Problem of the application of tunifications of tunifications of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based on heterojunctions KOESTLIN, H. Present state of the art in cond technology KOEL, K. C. | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 senerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 n various Cds 02 p0042 N74-27752 uctive coating 01 p0006 N74-17654 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-RP-39] 01 p0019 874-12577 LAROII, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. P. Photoelectric power engineering 02 p0066 N74-18304 LANTI, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TF-X-2996] 02 p0078 N74-20238 LAQUER, H. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching (la-UR-73-910] 02 p0074 N74-19375 LARSON, C. E. Energy options for the future 02 p0069 N74-18599 LASTER, L. L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18305 LATTSHEY, V. B. Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and thermoelectric generator [JPRS-61359] 02 p0071 N74-18723 LAWARD, T. A. |
| High powered electrical power gemotors [NMSA-TT-F-15303] Problems in the electrical equip plants [NMSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [NMSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NMSA-TT-F-15343] KLUM, D. L. Recycling solid waste for utility recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of ince efficiency of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based on heterojunctions KORSTLIM, H. Present state of the art in conduction to the condition of the condition of the condition of the conditions KOHL, K. C. Fabrication and testing of negat | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 senerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 n various Cds 02 p0042 N74-27752 uctive coating 01 p0006 N74-17654 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSHAM, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 N74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [LA-UR-73-910] 02 p0074 N74-19375 LASSON, C. E. Energy options for the future LASTER, L. L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18599 LATTSHEV, V. M. Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and thermoelectric generator [JYES-61359] 02 p0071 N74-18723 LANDD, T. A. Review of the windpower activities at the Brace |
| High powered electrical power gemotors [NMSA-TT-F-15303] Problems in the electrical equip plants in the electrical equip plants [NASA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [NASA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NASA-TT-F-15343] RIOH, D. L. Recycling solid waste for utilit recovery of other resources KLUSSHANN, W. Investigation of the relative menower plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of incefficiency of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based on heterojunctions KORSTLIN, H. Present state of the art in cond technology KOHL, K. C. Fabrication and testing of negat nickel-cadmium cells | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 sepenerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 n various Cds 02 p0042 N74-27752 uctive coating 01 p0006 N74-17654 ive-limited sealed | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-BSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASK-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASK-TT-F-15419] 02 p0063 N74-17792 LAND, D. Y. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSMAM, A. F. Photoelectric power engineering LANTI, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TM-X-2996] 02 p0078 X74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching (1A-UR-73-910] 02 p0074 N74-19375 LASSON, C. E. Snergy options for the future LASTER, L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18305 LATISHEV, V. B. Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and thermoelectric generator [JPRS-61359] 02 p0071 N74-18723 LANND, T. A. Review of the windpower activities at the Brace Research Institute |
| High powered electrical power gemotors [NMSA-TT-F-15303] Problems in the electrical equip plants [NMSA-TT-F-15312] The direct driving of synchronou large scale wind electrical poplants in parallel operation we synchronizing network, part 1 [NMSA-TT-F-15301] Using large wind power plants to synchronous generators in parawith a governing network [NMSA-TT-F-15343] KLUM, D. L. Recycling solid waste for utility recovery of other resources KLUSSHANN, W. Investigation of the relative me power plants for STOL-aircraft application KLYACHKIRA, A. L. Problem of the application of tuair transport. Methods of ince efficiency of turbofan engine ratios [AD-773292] KNEW, S. Photoelectric converters based on heterojunctions KORSTLIM, H. Present state of the art in conduction to the condition of the condition of the condition of the conditions KOHL, K. C. Fabrication and testing of negat | neration by wind 02 p0045 N74-15739 ment of wind power 02 p0046 N74-15749 senerators by wer generating ith a 02 p0047 N74-15757 directly drive llel operation 02 p0048 N74-15765 y fuel and 02 p0071 N74-18725 rits of different with blown flap 02 p0078 N74-20406 rbofan engines in rease in with high bypass 02 p0079 N74-20453 n various Cds 02 p0042 N74-27752 uctive coating 01 p0006 N74-17654 | Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORMI-MSF-EP-39] 01 p0019 874-12577 LACROIX, G. Wind energy [NASA-TT-F-15342] 02 p0047 N74-15764 Wind power, part 2 - economic feasibility, 1949 [NASA-TT-F-15419] 02 p0063 N74-17792 LAND, D. V. A critical review of mathematical diffusion modeling techniques for predicting air quality with relation to motor vehicle transportation [PB-224656/9GA] 02 p0066 N74-18304 LANDSHAM, A. P. Photoelectric power engineering LANTZ, R. Development concept for a small, split-core, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] 02 p0078 N74-20238 LAQUER, B. L. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching [LA-UR-73-910] 02 p0074 N74-19375 LASSON, C. E. Energy options for the future LASTER, L. L. Atmospheric emissions from the petroleum refining industry [PB-225040/5GA] 02 p0066 N74-18599 LATTSHEV, V. M. Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and thermoelectric generator [JYES-61359] 02 p0071 N74-18723 LANDD, T. A. Review of the windpower activities at the Brace |

LE METAYER, S.
Description and interpretation of the results LISSABAR, P. B. S. observed concerning the technological solar cell 02 p0059 #74-16797 LITTLE. B. E. satellite 02 p0039 A74-24929 Design options and tradeoffs in superconducting LEBEDINSKIF, A. P.
Kultifuel diesel eugines
[AD-771198/96A] magnetic energy storage with irreversible switching [LA-UR-73-910] 02 p0074 N74-19408 02 p0074 N74-19375 LEE, D. O. LO, M. P. Time factors in slowing down the rate of growth of Economic comparison of two solar/hydrogen concepts [SLA-73-900] 02 p0060 N74-16810 demand for primary energy in the United States [EQL-7] 01 p0030 874-15667 [SLA-73-900] LEES, L. Time factors in slowing down the rate of growth of LOESCE, H. R. demand for primary energy in the United States Solar cell development in the Federal Republic of [BQL-7] 01 p0030 N74-15667 Gernany LEFEGVRE, A. H. The environment and the gas turbine LORAY, V. I. 02 p0035 A74-21874 Aviation gas turbine engines (selected portions)
[AD-756810] 01 p0011 1774-10751 Thermal-oxidative stability of automotive diesel LOWE, R. A. Energy recovery from waste: Solid waste as supplementary fuel in power plant hollers [SW-36D.II] 02 p0076 fuels [AD-758146] 02 p0049 N74-15817 LESHERDOR, T.
Study of application of ERTS-a imagery to
fracture-related mine safety hazards in the coal 02 p0076 N74-19699 LOWERY, J. R.
A panel for selectively absorbing solar thermal energy and the method for manufacturing the panel [NASA-CASE-MFS-22562-1] 02 p0076 N74-19700 mining industry [874-10083] 01 p0014 N74-11195 LESSERBOX, T. V.

Application of ERTS-1 imagery to fracture related
mine safety hazards in the coal mining industry

2 2000 W7L-16 LUKSHA, B. Fabrication and testing of negative-limited sealed nickel-cadmium cells [274~10238] 02 p0049 N74-16007 [WASA-CR-135981] 01 p0009 N74-10078 Study of application of BRTS-A imagery to fracture-related mine safety hazards in the coal LUSDQUIST, G. E.
Energy problems in air transportation mining industry [274-10336] 02 p0033 A74-19479 02 p0065 N74~18012 LYDON, T. M. LEVERTON, W. R. Balancing the demand and supply of coal 02 p0052 N74-16658 Refurbishment of solar simulation optical train mirror assemblies [NASA-CR-134123] 01 p0018 N74-12016 IY, R., JR. Bigh voltage solar cell power generating system HACKENTHUM, W.

Neuwerk windmill power generation plant
[NASA-TT-F-15306] 02 p0045 N74-15740

HACKOVCIAK, J., JE.

Feasibility study of a satellite solar power station
[NASA-CR-2357] 02 p0063 H74-17784 for regulated solar array development
[ATAM PAPER 73-1105] 01 p0002 A74-12242 LEZEZEG, B. A. Emission calculations for a scramjet powered hypersonic transport [NASA-TM-X-71464] HAGES, E. H.
Potential pollutants in fossil fuels
[PB-225039/7GA] 02 p0066 H74-18313 01 p0018 N74-12445 LIBERATORE, A. J. Honcaking coal gasified in a stirred-bed producer
[BM-TPR-77] 02 p0073 N74-19117 [PB-225039//ea]
EARSUTOVA. B. K.
Aviation gas turbine engines (selected portions)
[AD-756810]
EALEVERIJ. T. N.
Possibility of commutating thermoelectric
batteries with the aid of mercury amalgam
[AD-756068]
O1 p0010 H74-10084 LIDORHERO, E. Photoelectric power engineering 02 00039 474-24936 LIBBERNIE, M.
Combustion and heat recovery of Air Force waste
petroleum oils and lubricants [AD-774563] 02 p0082 N74-21391 SALIGTA, D. D.
Qualitative analysis of the efficiency of MHD
energy conversion Combustion of the gases methane, LP gas and anmonia in a mixing reactor [POA-1-C-1442-H3] 01 p0022: 01 p0003 A74-13944 HMMARY, O. J.
Characterization of particulates and other
non-regulated emissions from mobile sources and
the effects of exhaust emissions control devices 01 p0022 974-12824 LIMAYE, D. R.
Quantitative energy studies and models: A state
of the art review on these emissions [PB-224243/6GA] 02 p0070 N74-18623 LINDABL, D. H.
The gasoline shortage: A national perspective
02 p0075 H74-19618 02 p0066 B74-18294 HARCHIONNA, N. R. Effect of water injection on mitric oxide emissions of a gas turbine combustor burning natural gas fuel LINDBN, E. R.
Review of world energy supplies
[IGU/A-1-73] natural gas rue:
[NASA-TB-X-2959]

MARIAN, D.
Role of theracenergetic research in saving fuel
02 p0062 N74-17663 01 p0026 N74-14666 LINDSAY, J. D. G. Design options and tradeoffs in superconducting magnetic energy storage with irreversible switching MARSTON, C. H.
Closed cycle MHD for central station power with
fossil or nuclear fuels [LA-UR-73-910] 02 p0074 N74~19375 LIMES, C. W.
Percy Thomas wind generator designs [AD-766500] 01 p0012 N74-10949 HARTIN, A. R.
Physical behaviour of some biowaste games in an 02 p0055 N74-16760 Parallel operation of a synchronous generator and an infinitely high-powered network when driven by a Honnef-Gross wind turbine ion engine [AIAA PAPER 73-1113] 01 p0001 A74-10691 MARTIN, C. Actual state of French technical developments { NASA-TT-F-15302] 02 p0047 N74-15762 LINVILLE, B.
Energy program, 1972
[BM-IC-8612] concerning sources of space power 01 p0002 A74-12794 HARTIE, J. Partial results concerning CdS solar cells 02 p0080 #74-20619 02 p0038 A74-24914

MOCKOVCIAK, J., JR.
Solar power for our nation BARTINUZZI, S. Terrestrial utilization of CdS-Cu25 solar errestrial utilization or customer photocella in the south of France 02 p0038 A74-24915 01 p0004 A74-14465 MARRITO J. V. Performance of Army engines with leaded and unleaded gasoline. Phase 1; Laboratory testing [AD-766760] 02 p0061 874-17523 The large scale wind driven electrical generating Station [BASA-TT-P-153131 02 p0046 N74-15750 HOOK. W. R. BAYJABD, O. B.
Feasibility study of a satellite solar power station

102 p0063 874-17784 Energy trends and their future effects upon transportation FP-5046 1 01 p0017 N74-11791 Energy policy research and the State of Florida [P-5078] MASSA-CR-337; 02 p0003 8/4-17/69

BAXERIS, 6, &.

The use of FEP Teflon in solar cell cover technology 01 p0026 N74-14684 [NASA-TH-X-71485] 01 p0012 N74-10944 a methodology for projecting the electrical energy ECCLURE, P. T.
California's electricity quandary. 3: Slowing demand of the manufacturing sector in California [R-991-MSF/CSRA] 02 p0053 N74-16673 the growth rate [R-1116-NSF/CSA] A methodology for projecting the electrical energy depand of the connercial sector in California [R-1106-MSF/CSRA] 02 p0054 N74-16679 02 p0054 N74-16680 MCCRACKEN, H. HORRIS, D. H.
Energy demand and its effect on the enhvironment
[P-5048] 01 p0017 874-1 Bucket rotor wind-driven generator 02 p0057 N74-16776 ECCULIOCS, W. H.

Beconomic comparison of two solar/hydrogen concepts
[S1A-73-900] 02 p0060 N74-168 01 p0017 N74-11790 Energy conservation in public and commerical buildings 02 p0060 874-16810 MCCULLOH, T. H. FP-50931 02 p0054 N74~16677 HORRIS, J. F. 01 p0029 N74-15259 Figure-of-merit calculation methods for organic MCDONALD, S. L.
Brwironmental protection and long run supply of heat-pipe fluids [NASA-TM-X-2945] 01 p0015 N74-11736 crude oil in the United States MORSE, F. H. 02 p0052 N74-16661 Conclusions and recommendations of the United States Solar Energy Panel Balancing the demand and supply of electricity and nuclear fuels 02 00040 174-24941 NSF presentation 02 p0052 N74-16659 02 p0059 N74-16798 HOSES, C. A.

Performance of Army engines with leaded and unleaded gasoline. Phase 1: Laboratory testing [AD-766760] 02 p0061 874-17523 Installation of turbine-fuels research combustor HCKIE, J. W.
Balancing the demand and supply of oil 02 p0052 N74-16656 ACCOUNTRY, G. J.
Interdisciplinary applications and interpretations
of ERTS data within the Susquehanna River Basin laboratory (resource inventory, land use, and pollution)
[274-10061] 01 p0013 N74-11162 [AD-772945] 02 p0073 N74-18897 MOSHER, C. A. Where there is a way [274-10061] HCWARLRA, J. E. . The fael crisis and the controller 02 p0055 N74-16763 02 p0034 A74-19726 MCCULT, R. F.
Schottky-barrier solar-cell calculations Analysis and improvement of silicon solar cells 02 p0037 A74-24905 02 p0035 A74-21028 MCVAY, D. B. The 1.5-kW fuel cell powerplant catalyst Analysis and improvement of silicon solar cells 02 p0037 174-24905 investigation
[AD-774274] Partial results concerning CdS solar cells 02 p0081 N74-20710 02 p0038 A74-24914 HEDYEDRY, Y.
And what if we were to switch to hydrogen?
O2 p0072 N74-18729 Description and interpretation of the results observed concerning the technological solar cell MEISENBURG, B. 02 p0039 A74-24929 HOUNTFORD, L. A.
The implications for air transportation of energy Supersonic fuels from medium oils produced by the thermal cracking of crude oil residues [DEVLR-SONDDR-301] 01 p0006 A74-18925 shortage 02 p0033 A74-19486 HOW, C. C. A methodology for projecting the electrical energy demand of the manufacturing sector in California 02 p0036 A74-23376 [R-991-NSF/CSRA] 02 p0053 N74~16673 UNISH, M.-The Characteristics and applications of the solar furnaces of the Central Laboratory of Armament 02 p0034 A74-19559 A methodology for projecting the electrical energy demand of the connercial sector in California [R-1106-WSF/CSRA] 02 p0054 N74-16679 SUPPLER, L. J. P. Geothernal resources METER, G. W. Progress in the utilization of wind power 01 p0028 N74-15240 Classification of public lands valuable for [NASA-TT-P- 15346] 02 p0046 x74-15753 The use of paper hopeycomb for prototype blade of construction for small to medium-sized wind geothermal steam and associated geothermal resources [CIRC-647] Ariven generators 02 p0049 N74-16049 BUNTENBRUCH, H. 02 p0056 \$74-16770 Design study of superconducting 5 tesla dipole HIKO. R. J. Experimental reel response system for high performance simplified aerial refueling store [AD-771389] 02 p0064 H74-17799 magnets for MGD generators [IPP-IV-53] 02 p0067 N74-18328 MURCI, H. The optimization of silicon photocell operated in conjunction with solar radiation concentrators Investigation of silicon photoelectric cells as precision photodetectors [NRC-TT-1686] 01 p0010 N74-10199 MURPHY, J. E.
A new view of solar energy 02 p0037 A74-24906 MKHITARIAN, 1. A.
On the theory of alternating-current electrofluiddynamic converters 02, p0050 N74-16514 MURRAY, D. C. 01 p0007 A74-18988 Development program for a liquid methane heat pipe 01 p0003 A74-14046

| HURRAY, P. | | NORMOOD, G. A. Energy research and development: | a selected |
|--|---|--|---|
| A hydrogen energy carrier. Volum | в 1; Summary 01 p0014 x74-11727 | reading list | A delebook |
| [NASA-CR-134175] A hydrogen energy carrier. Volum | 0 1 pv0 (4 x 24- 11/2) 0 2 | [ORNL-EIS-73-65-REV-1] | 01 p0022 N74-12695 |
| analysis | , 1, 0,100111 | Energy research and development: | 1 selected |
| [NASA-CR-134176] | 01 p0014 N74-11728 | reading list | 02 -0000 878-30637 |
| MURRILL R. J. | | [ORWL-BIS-73-65] BUTT, H. V. | 02 p0080 174-20627 |
| Dynamic model wind tunnel tests o | I a hlade rotor | Proceedings of Workshop on Mavy | Alternate Energy |
| variable-diameter, telescoping- system (TRAC rotor) | PIRGE TOTOL | Sources Research and Developmen | nt _ |
| [10-771037] | 02 p0061 N74-17764 | [AD-773746] | 02 p0078 N74-19717 |
| MUSATOV. R. A. | | | • |
| Effect of dry friction on the res | ponse to a | O | |
| symmetric harmonic signal of an producing mechanical energy | energy converter | ODGERS, J. | |
| broadcing mechanical energy | 02 p0034 A74-20067 | Bodelling of combustors - The ef: | fects of ambient |
| MUSLIN, R. | | conditions upon performance | A2 50000 374-25217 |
| And what if we were to switch to | hydrogen? | OLEARY, J. P. | 02 p0040 A74-25217 |
| [LA-TR-73-40] | 02 p0072 N74-18729 | Environmental issues and institu | tional arrangements |
| MUTCH, J. J. The potential for energy conserva | tion in | | 02 p0069 n74-18595 |
| commercial air transport | | OLSON, J. C. | |
| f 8-1360-VSF] | 02 p0070 N74-18606 | Nuclear fuels: Thorium | 01 p0029 N74-15258 |
| Transportation energy use in the | United States: A | OHAR, R. A. | 0, 640 %; %; ; ; ; ; ; |
| statistical history, 1955 - 197 [R-1391-WSF] | 02 p0070 N74-18607 | Advantages of the diffuser-augment | nted wind turbine |
| Coping with the fuel shortage: A | guide for Los | | 02 p0057 N74-16775 |
| Angeles residents | | ORMISTON, R. A. | lurge wind nower |
| [P-5154] | 02 p0080 N74-20622 | Rotor dynamic considerations for generator systems | targe wind power |
| MYTTON, R. J. The present potential of CdS sola | r cells as a | desergeor places | 02 p0056 N74-16772 |
| future contender for photovolta | ic space and | OSTAD-HOSSBINI, A. | |
| terrestrial power applications | | Solar heat utilization in reside | ntial heating |
| • | 02 p0038 A74-24911 | systems | 01 p0019 N74-12664 |
| | | OVERBEY, W. K., JR. | 01 900 (5 4) |
| N | | Directional properties of coal a | nd their |
| NELSOB, V. | | utilization in underground gas | ification |
| Need for a regional wind survey | | experiments | 01 p0018 #74-12159 |
| | 02 p0055 N74-16764 | [8M-TPR-73] | 01 poo 15 474-12133 |
| NESTEROY, B. P. pirect energy conversion methods | | • | |
| | | | |
| (AD-770000] | 02 p0061 N74-16916 | P | |
| [AD-770000] NGUYEN-DUY, T. | | PADALKO, L. P. | olonpina |
| | on solar cells | PADALKO, L. P. Mathematical methods of optimal | |
| NGUTEN-DUT, T. Analysis and improvement of silic | con solar cells 02 p0037 A74-24905 | PADALKO, L. P. Mathematical methods of optimal development and use of energy | |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar | con solar cells 02 p0037 A74-24905 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALE, H. | systems 01 p0022 #74-12693 |
| NGUTEN-DUT, T. Analysis and improvement of silic | con solar cells 02 p0037 A74-24905 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, B. Actual state of French technical | systems 01 p0022 H74-12693 developments |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability BICHOLS, L. D. | on solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALE, H. | systems 01 p0022 #74-12693 developments ver |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability BICHOLS, L. D. H2-02 combustion powered steam-Mi | on solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALE, H. Actual state of French technical concerning sources of apace po | systems 01 p0022 H74-12693 developments |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability BICHOLS, L. D. | on solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALE, H. Actual state of French technical concerning sources of apace po | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability BICHOLS, L. D. H2-02 combustion powered steam-Mi | oon solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 |
| NGUYER-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2s solar reliability BICHOLS, L. D. H2-02 combustion powered steam-Ms systems H2-02 combustion powered steam-Ms systems | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALE, H. Actual state of French technical concerning sources of apace po | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability MICHOLS, L. D. H2-02 combustion powered steam-H6 systems H2-02 combustion powered steam-H6 systems [NASA-TH-I-71512] | oon solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALE, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability MICHOLS, L. D. H2-02 combustion powered steam-H1 systems H2-02 combustion powered steam-H1 systems [NASA-TH-I-71512] NASA-TH-I-71512] NASA-Lewis H2-02 BHD program | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALR, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability MICHOLS, L. D. H2-02 combustion powered steam-H6 systems H2-02 combustion powered steam-H6 systems [NASA-TH-I-71512] | on solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALS, B. Actual state of French technical concerning sources of space po Photo-electric generators Results and future prospects on development in France Analysis and improvement of siling technology for CdS-Cu2S sola | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability BICHOLS, L. D. H2-02 combustion powered steam-H8 systems H2-02 combustion powered steam-H8 systems [NASA-TH-I-71512] NASA Lewis H2-02 HHD program [NASA-TH-I-71520] WIEDERAUGE, G. F. Development concept for a small, | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALR, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2s solar reliability BICHOLS, L. D. H2-02 combustion powered steam-Mi systems H2-02 combustion powered steam-Mi systems [NASA-TH-I-71512] NASA Lewis H2-02 HHD program [NASA-TH-Y-71520] BIEDERAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear reacter | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALE, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S solar reliability | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-02 combustion powered steam-H1 systems H2-02 combustion powered steam-H1 systems [NASA-TH-I-71512] NASA-TH-I-71520] NIEDBRAUER, G. F. Development concept for a small, heat-pipe-cooled nuclear reacto [NASA-TH-I-71520] | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S solareliability PANCHENKO, V. P. | systems 01 p0022 #74-12693 developments wer 01 p0002 #74-12794 02 p0036 #74-23842 photovoltaic power 02 p0037 #74-24904 con solar cells 02 p0037 #74-24905 ir cells of high 02 p0038 #74-24910 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability DICHOLS, L. D. H2-O2 combustion powered steam-HE systems H2-O2 combustion powered steam-HE systems [NASA-TH-Y-71512] NASA-TH-Y-71512] NASA-TH-Y-71520] WIEDERAUER, G. F. Development concept for a small, heat-pipe-cooled nuclear reacte [NASA-TH-Y-2996] WIELSEN, B. V. Report of the Wind Power Committee | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 dee of 1962 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALE, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S solar reliability | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-O2 combustion powered steam-H5 systems H2-O2 combustion powered steam-H5 systems [NASA-TM-Y-71512] NASA-TM-Y-71512] NASA-TM-Y-71520] WIEDEBAUER, G. F. Development concept for a small, heat-pipe-cooled nuclear reacto [NASA-TM-Y-2996] WIELSEN, B. V. Report of the Wind Power Committee [NASA-TT-Y-15442] | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, or | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of space po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S solar celiability PAMCHEMEO, V. P. Qualitative analysis of the efficenergy conversion | systems 01 p0022 #74-12693 developments wer 01 p0002 #74-12794 02 p0036 #74-23842 photovoltaic power 02 p0037 #74-24904 con solar cells 02 p0037 #74-24905 ir cells of high 02 p0038 #74-24910 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability DICHOLS, L. D. H2-02 combustion powered steam-HS systems H2-02 combustion powered steam-HS systems [NASA-TH-I-71512] NASA Lewis H2-02 BHD program [NASA-TH-I-71520] WIEDERAURE, G. F. Development concept for a small, heat-pipe-cooled nuclear reacto [NASA-TH-I-2996] WIELSEN, B. V. Report of the Wind Power Committee [NASA-TI-I-15442] NIKOLAEV, A. V. | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, or 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S sola reliability PANCHEMKO, V. P. Qualitative analysis of the efficenergy conversion PANERO, R. B. | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 cliency of MHD 01 p0003 x74-13944 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-O2 combustion powered steam-H5 systems H2-O2 combustion powered steam-H5 systems [NASA-TM-Y-71512] NASA-TM-Y-71512] NASA-TM-Y-71520] WIEDEBAUER, G. F. Development concept for a small, heat-pipe-cooled nuclear reacto [NASA-TM-Y-2996] WIELSEN, B. V. Report of the Wind Power Committee [NASA-TT-Y-15442] | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 plasma | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of space po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S solar celiability PAMCHEMEO, V. P. Qualitative analysis of the efficenergy conversion | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 cliency of MHD 01 p0003 x74-13944 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability DICHOLS, L. D. H2-02 combustion powered steam-HS systems H2-02 combustion powered steam-HS systems [NASA-TH-I-71512] NASA Lewis H2-02 BHD program [NASA-TH-I-71520] WIEDERAURE, G. F. Development concept for a small, heat-pipe-cooled nuclear reacto [NASA-TH-I-2996] WIELSEN, B. V. Report of the Wind Power Committee [NASA-TI-I-15442] NIKOLAEV, A. V. | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, or 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S solar celiability PABCHEMEO, V. P. Qualitative analysis of the efficenergy conversion PAMERO, R. B. Context of the session theme, in PAPPAGEORGE, J. G. | ystems 01 p0022 x74-12693 developments ver 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 ciency of MUD 01 p0003 x74-13944 iternational issues 02 p0068 x74-18584 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2s solar reliability BICHOLS, L. D. H2-02 combustion powered steam-Mi systems H2-02 combustion powered steam-Mi systems [NASA-TH-I-71512] NASA Lewis H2-02 HHD program [NASA-TH-Y-71520] BIEDBRAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear react [NASA-TH-I-2996] NIBLSEM, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] NIKOLARV, A. V. Heating of a substance by an arc | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 dust and tests | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALS, B. Actual state of French technical concerning sources of space por Photo-electric generators Results and future prospects on development in France Analysis and improvement of siling technology for CdS-Cu2S solar celiability PANCHEMEO, V. P. Qualitative analysis of the efficiency conversion PANERO, R. B. Context of the session theme, in the US energy crisis, the multing the services of the context of the session theme. | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 r cells of high 02 p0038 x74-24910 ciency of MHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-O2 combustion powered steam-Ni systems H2-O2 combustion powered steam-Ni systems [NASA-TM-Y-71512] NASA-TM-Y-7152] NIEDERAUER, G. F. Development concept for a small, heat-pipe-cooled nuclear reacto [NASA-TM-Y-2996] NIELSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] NIKOLARV, A. V. Heating of a substance by an arc NIMMC, E. L. KIVA-I MHD generator modification [AD-770063] | con solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 HD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, or 02 p0078 N74-20238 ee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, B. Actual state of French technical concerning sources of space po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S solar cliability PAMCHEMEO, V. P. Qualitative analysis of the efficiency conversion PAMERO, R. B. Context of the session theme, in PAPPAGEONGE, J. G. The US energy crisis, the multing corporations and their relations. | systems 01 p0022 #74-12693 developments wer 01 p0002 #74-12794 02 p0036 #74-23842 photovoltaic power 02 p0037 #74-24904 con solar cells 02 p0037 #74-24905 or cells of high 02 p0038 #74-24910 ciency of MHD 01 p0003 #74-13944 iternational issues 02 p0068 #74-18584 intional oil |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability MICHOLS, L. D. H2-02 combustion powered steam-H5 systems H2-02 combustion powered steam-H5 systems [NASA-TH-I-71512] NASA-TH-I-71512] NASA-TH-I-71520] MIEDERAURE, G. F. Development concept for a small, heat-pipe-cooled nuclear reacte [NASA-TH-I-2996] NIBLSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] NIKOLARY, A. V. Heating of a substance by an arc MIMMO. R. L. KIYA-I MHD generator modification [AD-770063] NIXON, R. | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 HD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, or 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 dust and tests 02 p0060 N74-16815 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S solar cliability PANCHEMKO, V. P. Qualitative analysis of the efficenergy conversion PAMERO, R. B. Context of the session theme, in PAPPAGEORGE, J. G. The US energy crisis, the multing corporations and their relation foreign policy in the Middle I | systems 01 p0022 #74-12693 developments wer 01 p0002 #74-12794 02 p0036 #74-23842 photovoltaic power 02 p0037 #74-24904 con solar cells 02 p0037 #74-24905 or cells of high 02 p0038 #74-24910 ciency of MHD 01 p0003 #74-13944 iternational issues 02 p0068 #74-18584 intional oil |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-O2 combustion powered steam-Ni systems H2-O2 combustion powered steam-Ni systems [NASA-TM-Y-71512] NASA-TM-Y-7152] NIEDERAUER, G. F. Development concept for a small, heat-pipe-cooled nuclear reacto [NASA-TM-Y-2996] NIELSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] NIKOLARV, A. V. Heating of a substance by an arc NIMMC, E. L. KIVA-I MHD generator modification [AD-770063] | 200 Solar Cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 ee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S sola reliability PAMCHEMKO, V. P. Qualitative analysis of the effi energy conversion PAMERO, R. B. Context of the session theme, in PAPPAGEONGE, J. G. The US energy crisis, the multin corporations and their relatio foreign policy in the Middle H [AD-760868] PARENTE, R. B. | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 ciency of MHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 sational oil |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability MICHOLS, L. D. H2-02 combustion powered steam-Hi systems H2-02 combustion powered steam-Hi systems [NASA-TH-X-71512] NASA-TH-X-71520] WIEDBRAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear reacte [NASA-TH-X-2996] WIELSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] NIKOLARV, A. V. Heating of a substance by an arc NIMMO, R. 1. KIVA-I MHD generator modification [AD-770063] NIXON, R. National energy policy for meetic | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 HD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, or 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 dust and tests 02 p0060 N74-16815 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace por Photo-electric generators Results and future prospects on development in France Analysis and improvement of siling technology for CdS-Cu2S solar celiability PANCHEMEO, V. P. Qualitative analysis of the efficiency conversion PAMERO, R. B. Context of the session theme, in PAPPAGEORGE, J. G. The US energy crisis, the multime corporations and their relation foreign policy in the Middle In [AD-750868] | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 ciency of MHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 sational oil miship to US sast 02 p0055 x74-16697 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-02 combustion powered steam-Ni systems H2-02 combustion powered steam-Ni systems [NASA-TH-I-71512] NASA Lewis H2-02 BHD program [NASA-TH-I-71520] WIEDERAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear react [NASA-TH-I-2996] WIELSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] WIKOLARY, A. V. Heating of a substance by an arc NIMMO, R. L. KIVA-I MHD generator modification [AD-770063] WIXON, R. National energy policy for meetic requirements HIXON, W. B. | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace por Photo-electric generators Results and future prospects on development in France Analysis and improvement of silingly for CdS-Cu2S solar reliability PANCHEMEC, V. P. Qualitative analysis of the efficiency conversion PANERO, R. B. Context of the session theme, in Comporations and their relation foreign policy in the Middle Foreign policy in | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 ciency of MHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 sational oil |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability MICHOLS, L. D. H2-02 combustion powered steam-Hi systems H2-02 combustion powered steam-Hi systems [NASA-TH-X-71512] NASA-TH-X-71520] WIEDBRAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear reacte [NASA-TH-X-2996] WIELSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] NIKOLARV, A. V. Heating of a substance by an arc NIMMO, R. 1. KIVA-I MHD generator modification [AD-770063] NIXON, R. National energy policy for meetic | 200 Solar Cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD Central power 02 p0042 A74-27775 dD Central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 ee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 sailwing windmill | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S sola reliability PANCHEMKO, V. P. Qualitative analysis of the effi energy conversion PANERO, R. B. Context of the session theme, in PAPPIGEORGE, J. G. The US energy crisis, the multin corporations and their relatio foreign policy in the Middle II [AD-760568] PARENTE, R. B. POWER SOURCE QUALITY PASEKOV. S. A. | systems 01 p0022 x74-12693 developments ver 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 ciency of MHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 sternational oil onship to US Sast 02 p0055 x74-16697 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-02 combustion powered steam-Ni systems H2-02 combustion powered steam-Ni systems [NASA-TH-I-71512] NASA Lewis H2-02 BHD program [NASA-TH-I-71520] WIEDERAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear react [NASA-TH-I-2996] WIELSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] WIKOLARY, A. V. Heating of a substance by an arc NIMMO, R. L. KIVA-I MHD generator modification [AD-770063] WIXON, R. National energy policy for meetic requirements HIXON, W. B. | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace por Photo-electric generators Results and future prospects on development in France Analysis and improvement of siling technology for CdS-Cu2S solar celiability PANCHEMEC, V. P. Qualitative analysis of the efficiency conversion PANERO, R. B. Context of the session theme, in Comporations and their relation foreign policy in the Middle Face of the Component of Succession Paners, R. B. Power source quality PASEROY, S. A. Thermal cycle and efficency of Sunit with a magnetohydrodynamics | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 ciency of MHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 stitional oil miship to US sast 02 p0055 x74-16697 01 p0019 x74-12635 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability DICHOLS, L. D. H2-02 combustion powered steam-Hi systems H2-02 combustion powered steam-Hi systems [NASA-TH-X-71512] NASA-TH-X-71520] MIEDBEAURE, G. F. Development concept for a small, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] WIELSEN, B. V. Report of the Wind Power Committer [NASA-TT-Y-15442] MIKOLARY, A. V. Heating of a substance by an arc NIMMC, R. L. KIVA-I MHD generator modification [AD-770063] NIXON, R. National energy policy for meetic requirements HIXOH, W. B. An introduction to the Princeton | 200 Solar Cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD Central power 02 p0042 A74-27775 dD Central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 de of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 sailwing windmill 02 p0056 N74-16769 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, B. Actual state of French technical concerning sources of space por Photo-electric generators Results and future prospects on development in France Analysis and improvement of siling technology for CdS-Cu2S solar celiability PAMCHEMKO, V. P. Qualitative analysis of the efficiency of sunit with a magnetohydrodynamic themselectric generator | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 r cells of high 02 p0038 x74-24910 ciency of MHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 sternational oil poship to US Sast 02 p0055 x74-16697 01 p0019 x74-12635 a versatile power lc generator and |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability DICHOLS, L. D. H2-02 combustion powered steam-H5 systems H2-02 combustion powered steam-H5 systems [NASA-TH-X-71512] NASA-TH-X-71520] MIEDBRAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] MIELSEN, B. V. Report of the Wind Power Committer [NASA-TT-Y-15442] MIKOLARY, A. V. Heating of a substance by an arc NIMMC, R. L. KIVA-I MHD generator modification [AD-770063] MIXON, R. National energy policy for meetic requirements MINOL, W. B. An introduction to the Princeton NOBL, J. H. French wind generator systems | 200 Solar Cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD Central power 02 p0042 A74-27775 dD Central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 ee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 sailwing windmill | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S sola reliability PANCHEMKO, V. P. Qualitative analysis of the effi energy conversion PAMERO, R. B. Context of the session theme, in PAPPAGEORGE, J. G. The US energy crisis, the multir corporations and their relatic foreign policy in the Middle II [AD-765868] PAREMER, R. B. Power source quality PASEKOV, S. A. Thermal cycle and efficency of a unit with a magnetohydrodynami thermoelectric generator [JPRS-61359] | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 or cells of high 02 p0038 x74-24910 ciency of MHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 stitional oil miship to US sast 02 p0055 x74-16697 01 p0019 x74-12635 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2s solar reliability NICHOLS, L. D. H2-02 combustion powered steam-Ni systems H2-02 combustion powered steam-Ni systems [NASA-TH-I-71512] NASA-TH-I-71512] NASA-TH-I-71520} WIEDERAUGE, G. F. Development concept for a small, heat-pipe-cooled nuclear react [NASA-TH-I-2996] WIELSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] NIKOLAEV, A. V. Heating of a substance by an arc NIMMO. R. A. KIVA-I MHD generator modification [AD-770063] NIXON, R. National energy policy for meetic requirements HINON, W. B. An introduction to the Princeton NOBL, J. M. French wind generator systems HOLAH, J. J. | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 sailwing windmill 02 p0059 N74-16793 | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PAIR, B. Actual state of French technical concerning sources of space po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S sola reliability PANCHENKO, V. P. Qualitative analysis of the effi energy conversion PANERO, R. B. Context of the session theme, in PAPPAGEORGE, J. G. The US energy crisis, the multin corporations and their relatic foreign policy in the Middle I [AD-760868] PARENTE, R. B. Power source quality PASEKOV, S. A. Thermal cycle and efficency of s unit with a magnetohydrodynami thermoelectric generator [JPRS-61359] PASINI, J., III | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 r cells of high 02 p0038 x74-24910 ciency of NHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 stational oil buship to US sast 02 p0055 x74-16697 01 p0019 x74-12635 a versatile power c generator and 02 p0071 x74-18723 |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability DICHOLS, L. D. H2-02 combustion powered steam-H5 systems H2-02 combustion powered steam-H5 systems [NASA-TH-X-71512] NASA-TH-X-71520] MIEDBRAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear reactor [NASA-TH-X-2996] MIELSEN, B. V. Report of the Wind Power Committer [NASA-TT-Y-15442] MIKOLARY, A. V. Heating of a substance by an arc NIMMC, R. L. KIVA-I MHD generator modification [AD-770063] MIXON, R. National energy policy for meetic requirements MINOL, W. B. An introduction to the Princeton NOBL, J. H. French wind generator systems | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 de of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 sailwing windmill 02 p0059 N74-16793 cost estimates, | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S sola reliability PANCHEMEC, V. P. Qualitative analysis of the effi energy conversion PAMERO, R. B. Context of the session theme, in PAPPAGEORGE, J. G. The US energy crisis, the multin corporations and their relatic foreign policy in the Middle II [AD-765868] PAREMER, R. B. Power source quality PASEKOV, S. A. Thermal cycle and efficency of a unit with a magnetohydrodynami thermoelectric generator [JPRS-61359] PASIMI, J., III Directional properties of coal a utilization in underground gas | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 r cells of high 02 p0038 x74-24910 ciency of KHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 sational oil unship to US sast 02 p0055 x74-16697 01 p0019 x74-12635 a versatile power 1c generator and 02 p0071 x74-18723 and their |
| NGUYEN-DUY, T. Analysis and improvement of silic New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-02 combustion powered steam-Ni systems H2-02 combustion powered steam-Ni systems [NASA-TH-I-71512] NASA-TH-I-71512] NASA-TH-I-71520} WIEDERAUGH, G. F. Development concept for a small, heat-pipe-cooled nuclear react [NASA-TH-I-2996] WIELSEN, E. V. Report of the Wind Power Committe [NASA-TT-Y-15442] NIKOLARV, A. V. Heating of a substance by an arc WIMMO. R. 1. KIVA-I MHD generator modification [AD-770063] NIXON, R. National energy policy for meeting requirements BIXON, W. B. An introduction to the Princeton NOBL, J. H. French wind generator systems HOLAN, J. J. Development of design criteria, and schedules for an MHD high demonstration experiment | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 dee of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 sailwing windmill 02 p0056 N74-16769 02 p0059 N74-16793 cost estimates, performance | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PAIR, B. Actual state of French technical concerning sources of space por Photo-electric generators Results and future prospects on development in France Analysis and improvement of siling technology for CdS-Cu2S solar celiability PANCHENKO, V. P. Qualitative analysis of the efficiency of the usergy conversion PANERO, R. B. Context of the session theme, in Comporations and their relation foreign policy in the Middle In [AD-760868] PARENTE, R. B. Power source quality PASEKOV, S. A. Thermal cycle and efficency of sunit with a magnetohydrodynamic thermoelectric generator [JPRS-61359] PASINI, J., III Directional properties of coal sutilization in underground gas experiments | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 r cells of high 02 p0038 x74-24910 ciency of NHD 01 p0003 x74-13944 aternational issues 02 p0068 x74-18584 mational oil buship to US sast 02 p0055 x74-16697 01 p0019 x74-12635 a versatile power c generator and 02 p0071 x74-18723 and their sification |
| NGUYEN-DUY, T. Analysis and improvement of silice New technology for CdS-Cu2S solar reliability NICHOLS, L. D. H2-02 combustion powered steam-Nicesystems H2-02 combustion powered steam-Nicesystems [NASA-TH-I-71512] NASA Lewis H2-02 HHD program [NASA-TH-X-71520] NIRDBRAURR, G. F. Development concept for a small, heat-pipe-cooled nuclear reacte [NASA-TH-I-2996] NIBLSEN, E. V. Report of the Wind Power Committe [NASA-TT-I-15442] NIKOLARY, A. V. Heating of a substance by an arc NIMMC, R. 1. KIVA-I MHD generator modification [AD-770063] NIXON, R. National energy policy for meetic requirements NIXON, W. B. An introduction to the Princeton NOBL, J. M. French wind generator systems HOLAN, J. J. Development of design criteria, and schedules for an MHD high | On solar cells 02 p0037 A74-24905 cells of high 02 p0038 A74-24910 dD central power 02 p0042 A74-27775 dD central power 02 p0060 N74-16800 02 p0076 N74-19697 split-core, 02 p0078 N74-20238 de of 1962 02 p0078 N74-19710 plasma 01 p0001 A74-10463 ms and tests 02 p0060 N74-16815 mg US energy 02 p0079 N74-20613 sailwing windmill 02 p0059 N74-16793 cost estimates, | PADALKO, L. P. Mathematical methods of optimal development and use of energy [JPRS-60546] PALZ, H. Actual state of French technical concerning sources of apace po Photo-electric generators Results and future prospects on development in France Analysis and improvement of sili New technology for CdS-Cu2S sola reliability PANCHEMEC, V. P. Qualitative analysis of the effi energy conversion PAMERO, R. B. Context of the session theme, in PAPPAGEORGE, J. G. The US energy crisis, the multin corporations and their relatic foreign policy in the Middle II [AD-765868] PAREMER, R. B. Power source quality PASEKOV, S. A. Thermal cycle and efficency of a unit with a magnetohydrodynami thermoelectric generator [JPRS-61359] PASIMI, J., III Directional properties of coal a utilization in underground gas | systems 01 p0022 x74-12693 developments wer 01 p0002 x74-12794 02 p0036 x74-23842 photovoltaic power 02 p0037 x74-24904 con solar cells 02 p0037 x74-24905 r cells of high 02 p0038 x74-24910 ciency of KHD 01 p0003 x74-13944 sternational issues 02 p0068 x74-18584 sational oil unship to US sast 02 p0055 x74-16697 01 p0019 x74-12635 a versatile power 1c generator and 02 p0071 x74-18723 and their |

| PAWLOWSKI, P. | | PITTENGER, L. C. | |
|---|-------------------------------|--|---------------------|
| A novel method of cooling semicon | ductor devices | Experimental two-phase liquid-met | |
| for power electronics | 04 -0045 976-44730 | magnetohydrodynamic generator p | |
| [BEFT-PBT-02] PEARLERS S. | 01 p0015 N74-11739 | [AD-766588] PIVKO, S. | 01 p0013 N74-10952 |
| Nickel-zinc cells with non-sinter | ed electrodes | Complete mechanical energy utiliz | ation in |
| | 02 p0035 A74-20631 | aeronautical propulsion systems | |
| PECE, D. L. | - | | 02 p0042 A74-27611 |
| Assessment of geothermal energy r | | PLASTS, K. D. | |
| DEMANNA - D | 01 p0030 N74-15661 | An economic evaluation of MHD-ste | am powerplants |
| PENNSUEL, J. D. Applicability of Skylab remote se | naina far | employing coal gasification [BM-RI-7796] | 02 p0051 N74-16620 |
| detection and monitoring of sur | | PLOTKIN, S. E. | 02 p0031 1174-10020 |
| activities | | Energy conservation strategies | |
| [274-10160] | 01 p0024 N74-14028 | (PB-224493/7GA] | 02 p0064 N74-17800 |
| PERALTA, B. | | POEL, P. 1. | |
| The refining of turbine fuels by | nodern | Cost efficiency of tungsten carbi | de-carbon fuel |
| bydrotreating [AIAA PAPER 74-162] | 01 50006 370-10700 | cells | 02 p0036 A74-24054 |
| PERSHING, D. W. | 01 p0000 R14-10730 | POLIGDOY, V. V. | 02 P0030 R/4-24034 |
| Proceedings, Coal Combustion Semi | bar | The motion of a conducting piston | in a channel |
| [PB-224210/5GA] | 02 p0051 N74-16627 | with variable inductance | |
| PRSCHEL, #. | | | 02 p0036 A74-22279 |
| Energy supply and energy transfor | mers in | POPE, R. B. | |
| satellites and spacecraft | 01 p0006 A74-18189 | Economic comparison of two solar/ | 02 p0060 N74-16810 |
| PETERSEN, G. W. | 01 p0000 R/4-10103 | POPOVICI, T. | 02 .p0000 114-10010 |
| Interdisciplinary applications an | d interpretations | Role of thermoenergetic research | in saving fuel |
| of ERTS data within the Susqueh | | | 02 p0062 N74-17663 |
| (resource inventory, land use, | | POWE, R. E. | |
| [E74-10061] | 01 p0013 N74-11182 | Technical feasibility study for t | |
| PETERSON, J. T. | +u=+1 mannan | a large capacity wind powered e | lectrical |
| Applications of meteorology to na planning | cdidi resodice | generating system | 02 p0059 N74-16791 |
| ·. | 01 p0014 N74-11395 | PRABHU, V. D. | 02 g0003 |
| PETERSON, R. R. | - | Investigation of energy conversion | n in rapidly |
| Application and durability of sol | ar absorber | cycling fuel cells, 1. A system | |
| coatings | | the surface diffusion of hydrog | |
| [AD-769449] PETROSYARTS, A. H. | 02 p0049 N74-16264 | DODAMBARDWCFTY A | 02 p0071 N74-18720 |
| Self-contained low power atomic p | lante | PREDTECHENSKII, G. By-pass engines | |
| [AD-766969] | 01 p0014 N74-11519 | [AD-772723] | 02 p0074 N74-19413 |
| From scientific research to the a | | PROKOP'RY, V. M. | |
| [JPRS-60584] | 01 p0023 N74-13428 | Effect of dry friction on the res | ponse to a |
| PETTICRES, R. V. | • | symmetric harmonic signal of an | energy converter |
| Exploratory development of a glass | s ceramic | producing mechanical energy | 02 -0028 128-20067 |
| automobile thermal reactor [NASA-CR-134513] | 01 p0619 N74-12447 | PSCHOHDER, W. | 02 p0034 174-20067 |
| PEZZANI, G. | 01 20015 1114 12441 | Technology and performance charact | teristics of |
| Airports evolution and qualificat | ioπ | integral diode solar cells | |
| | 02 p0033 A74~19481 | | 02 p0038 174-24908 |
| PFISTRARA, P. | 414m m-11a | PUCHKOV, N. G. | |
| On inhomogeneities of thin film s | 02 p0039 A74-24918 | Commerical petroleum products, pro applications | operties and |
| PARE, R. L. | 02 p0005 E14 E4510 | [AD-754703] | 01 p0010 N74-10128 |
| Liquid metal magnetohydrodynamics | (LMMHD) | PULFREY, D. L. | |
| technology transfer feasibility | study. Volume | Schottky-barrier solar-cell calcu | |
| 1: Summary | 04 0003 454 45455 | | 02 p0035 A74-21028 |
| [NASA-CR-136197] Liquid metal magnetohydrodynamics | 01 p0023 R74-13466 | PULLEN, D. A. R. | ashaisna in the |
| technology transfer feasibility | | Righ energy radiography - A new to development of efficiency and in | |
| 2: Appendixes | | gas-turbine engines | |
| [NASA-CR-136198] | 01 p0023 N74-13467 | | 02 p0035 A74-21316 |
| PHILLIPS, E. C. | | • | • |
| Method of forming a wick for a he | at pipe 02 p0074 %74-19584 | R · | |
| [NASA-CASE-NPO-13391-1] PICHARD, G. | 02 p0014 R14-19304 | HAAB, B. | |
| New technology for Cd5-Cu2S solar | cells of high | Solar vs. nuclear power - Is there | e a choice |
| reliability | * | [AIAA PAPER 74-489] | 02 p0043 A74-27833 |
| | 02 p0038 A74-24910 | RABENHORST, D. W. | - |
| PIGBAUD, P. D. | 77 663 | Superflywheel energy storage syste | |
| Method of calculation of annual of modern wind-power plants | Aetail ellicieuch | Dogian socialization for | 02 p0058 N74-16783 |
| [NASA-TT-F-15310] | 02 p0046 N74-15748 | Design considerations for a 100-megajoule/500-megawatt super | rflwhael |
| PIGGE, H. | | [AD-774736] | 02 p0081 N74-20709 |
| Characteristic lines (yearly perm | anent level | RAEDER, J. | • • |
| lines) and characteristic wind | variables for | Effect of finite chemical reaction | n rates on heat |
| wind energy production | 100 -000C 476 AFRE | transfer to the walls of combus | tion-driven |
| [NASA-TT-F-15354] Antenna towers as wind tower gene | 02 p0046 N74-15747 | supersonic MHD generator channe | |
| [NASA-TT-F-15304] | 02 p0047 N74-15763 | RAHFUSE, R. V. | 02 p0036 A74-23221 |
| PIRO, L. | | Noncaking coal gasified in a stir: | red-bed producer |
| Experimental reel response system | | [BX-TPR-77] | 02 p0073 N74-19117 |
| performance simplified aerial r | | RAIBLE, C. J. | _ |
| [AD+771389] | 02 p0064 N74~17799 | The association of automotive fue | l composition |
| PITEAN, J. K. Oil shale | | with exhaust reactivity [PB-222609/0] | 04 n0040 w70=40400 |
| | | [| 01 p0010 N74-10129 |

01 p0029 N74-15260

| RALPH, B. L. Feasibility study of a satellite solar power station | ROSA, R. J. Satellite nu analysis |
|--|---|
| [NASA-CR-2357] 02 p0063 N74-17784 BAMSET, J. W. Application and durability of solar absorber | ROSE, D. J. |
| coatings [AD-769449] 02 p0049 x74-16264 | Nuclear ecle |
| RECK, R. O. Energy conservation strategies | ROSSANO, A. T. A critical re |
| [PB-224493/7GA] 02 p0064 8/4-1/000 RRINHARTZ, K. K. | modeling to with relat: |
| The BSTEC technology programme in solar energy conversion | [PB-224656, ROSSELER, G. |
| 02 p0037 A74-24902 REINIG, L. P. | Wind-power s directiona |
| Some interfaces in resource utilization [La-UR-73-570] 01 p0022 N74-12696 | and the ex- [WASA-TT-F |
| REITAW, D. K. Wind-powered asynchronous AC/DC/AC converter system 02 p0057 N74-16777 | ROUX, B. Energy: Con resources, |
| RENAUD, A. Helicopter applications at sea | [LRP-63/73 ROSSELL, J. A. |
| 02 p0034 174-19690 | Performance unleaded g |
| Vitreous exide antireflection films in high-efficiency solar cells | [AD-766760 RUSSELL, O. R. |
| 01 p0004 A74-14250 | Study of app fracture-r |
| The refining of turbine fuels by modern hydrotreating | mining ind [B74-10083 |
| [AIRA PAPER 74-162] 01 p0006 A74-18798 RILRY, T. J. | Application mine safet |
| The multiple junction edge illuminated solar cell [NASA-TM-X-71476] 01 p0012 N74-10947 | [E74-10238 Application |
| RIORDAG, R. G. Vapor generator feed pump for Rankine cycle | mine safet in mining |
| automotive propulsion system (Chandler Evans) [PB-222849/2] 01 p0011 874-10747 | [274-10258 Study of app |
| RIGUY, C. Description of the energy source project | fracture-r mining ind |
| delivering 1 megajoule in 1 microsecond [LF-3] 02 p0061 N74-17454 | [E74-10336 RYDNIK, V. I. |
| RIGUE, R. L. Classification of public lands valuable for quothermal steam and associated geothermal | Direct energ (AD-770000 |
| resources [CIRC-647] 02 p0049 N74-16049 | |
| BOBERTS, K. Han versus His Institutions | SAFFRE, H. H. Heat operate |
| 02 p0070 N74-18603 | NASA-CASE SAILOR, V. L. |
| Mechanisms for achieving cleaner power, prices, regulations | Hydrogen eco [BBL-18224 |
| 02 p0069 N74-18596 | SAKISAKA, M. Energy deman |
| Ryolution of studies in the field of gas lasers 01 p0005 A74-16909 ROBSON, G. R. | SALLES, I. Photosensiti |
| Geothermal electricity production 02 p0042 A74-27321 | Solar genera |
| ROBOT, M. Current prospects for solar cells 02 p0040 A74-24943 | SALTER, R. G. Energy conse |
| RORHISCH, E. Technological problems with large-area solar cell | buildings (P-5093) |
| acrays [DGLR PAPER 73-107] 01 p0005 A74-17204 | SAMS, R. W. Refan progra |
| ROGERS, J. D. Design options and tradeoffs in superconducting | (NASA-TM-) SAMURLS, G. |
| magnetic energy storage with irreversible switching | Isotope kild {ORNI-TM-4 |
| [LR-UR-73-910] 02 p0074 N74-19375 ROGGE, E. | SATER, B. I. The sultiple |
| New wind power station [NASA-TT-F-15332] 02 p0048 N74-15767 | (NASA-TH-) SAUER, T. |
| ROIZES, A. Analysis and improvement of silicon solar cells 02 p0037 A74-24905 | Wind power p [NASA-TT-F SAUNDERS, D. F. |
| NOB, Y. E. Summary of the study of disposal of nuclear waste | ERTS-1 image Evaluation |
| into space 01 p0005 A74-16123 | imagery in minerals a |
| Assessment of lightweight mobile nuclear power systems | [E74-1000] ERTS-1 image |
| Solar energy to meet the nation's energy needs | Evaluation |
| [NASA-TB-X-68290] 01 p0011 N74-10754 | minerals a [274-1034] |

```
clear power station: An engineering
                              01 p0002 A74-13234
ctic power
                              02 p0041 A74-27320
eview of mathematical diffusion
echniques for predicting air quality
ion to motor wehicle transportation
                              02 p0066 N74-18304
supply for the decimeter range
al radio site at Schoeneberg (Eifel)
rperience gained
?-15337]
                              02 p0048 N74-15768
piled bibliography and tables of world consumption, and wastes
                              01 p0010 N74-10391
of Army engines with leaded and
pasoline. Phase 1: Laboratory testing
02 p0061 N74-17523
plication of BRTS-A imagery to
related mine safety hazards in the coal
of ERTS-1 imagery to fracture related
by hazards in the coal mining industry
02 p0049 N74-16007
of EREP imagery to fracture-related
ty hazards and environmental problems
                               02 p0049 N74-16019
lication of ERTS-A imagery to
elated mine safety hazards in the coal
lustry
                               02 p0065 #74-18012
y conversion methods
                               02 p0061 N74-16816
             S
ed cryogenic electrical generator
2-pp0-13303-1] 02 p0077 N
                               02 p0077 N74-19701
nony
                               02 p0060 N74-16809
nd in Japan, 1975 to 1985
                               02 p0069 N74-18600
ive elements for solar sensors
                               01 p0005 A74-17296
ators for sounding balloons
                               02 p0040 A74-24940
ervation in public and commerical
                               02 p0054 ¥74-16677
     Phase 1: Summary report
456] 01.p0009 #74-10043
X-71456]
owatt program
                               01 p0025 N74-14377
4243]
e junction edge illuminated solar cell
x-71476] 01 p0012 N74-10947
plants in Russia
P-15331]
                               02 p0045 N74-15743
ery use in reconnaissance prospecting:
n of the commercial utility of ERTS-1
n structural reconnaissance for
and petroleum
71
                               01 p0013 K74-11148
ery use in reconnaissance prospecting:
n of commercial utility of ERTS-1
n structural reconnaissance for
and petroleum
                               02 p0082 N74-20948
5]
```

| SAVAGE, R. L. | |
|--|--|
| A hydrogen energy carrier. Volume [NASA-CR-134175] | U1 PUU (4 8/4-11/2/ |
| y pageodes eseeda conster. Antique | e 2: Systems |
| analysis [NASA-CR-134176] | 01 p0014 N74-11728 |
| SAVIRO, J. B. Status of wind-energy conversion | |
| | 02 p0042 A74-27772 |
| Wind energy conversion systems [NASA-TH-X-69786] | 02 p0055 N74-16757 |
| Status of wind-energy conversion [NASA-TM-X-71523] | 02 p0077 x74-19705 |
| CLUVER D F | croft propulsion |
| The hydrogen fuel economy and air [AIAA PAPER 73-1319] | 01 p0006 A74~17905 |
| SCHIBBER, D. Direct energy conversion by means | of solar cells |
| | 02 p0040 A74-24937 |
| SCHAIDT, H. J. Development of design criteria, c and schedules for an MHD high p | ost estimates, |
| and schedules for an MHD high p demonstration experiment | |
| [AD-766232] | 01 p0017 N74-11852 |
| The Dolphin airship with undulati | ng propulsion |
| system - A new form of the eval | 02 p0035 A74-22272 |
| SCHREGER, A. Solar generator simulation for sa | tellite projects |
| | 02 p0041 A74-26324 |
| SCHURIN, O. P. The history of technology and eng | pineering solutions |
| SCHUTTLER, R. | 01 p0016 N74-11760 |
| Analysis and improvement of silic | con solar cells 02 p0037 174-24905 |
| SCHWARTZ, H. | - |
| Experimental reel response system performance simplified aerial r | einelind store |
| [AD-771389] | 02 p0064 N74-17799 |
| SCHMARTZ, H. J. Electric vehicle battery research | n and development 01 p0012 N74-10946 |
| [NASA-TM-X-71471] Batteries for storage of wind-ger | aerated energy |
| SCHWEINFORTH, S. P. | 02 p0058 N74-16784 |
| Energy resources of the United St | tates 01 p0031 ¥74-15685 |
| [CIRC-650] Energy resources of the United St | tates 02 p0075 N74-19614 |
| [CIRC-650] SCHWRPPE, P. C. | |
| Modeling of electric power demand [PB-224045/5GA] | d growth 02 p0054 N74-16690 |
| SEIDEL, G. R. Small wind-electrical installation | one for export |
| [NA SA -TT-F- 15350] | 02 p0048 174-15770 |
| SEIDEL, M. R. Energy conservation strategies | |
| [PB-224493/7GA] | 02 p0064 N74-17800 |
| H2-02 combustion powered steam-H | ND central power |
| systems | 02 p0042 174-27775 |
| H2-02 combustion powered steam-M systems | |
| [NASA-TM-X-71512] | 02 p0060 N74-16800 gnetohydrodynamic |
| aenerator applications - Freil | minary evaluation 02 p0067 x74-18557 |
| [NASA-TN-D-7534] NASA Lewis H2-02 MHD program | - |
| [NASA-TH-X-71520] | 02 p0076 N74-19697 |
| SERTOROV, V. R. Using the energy of the wind for | electrification 02 p0060 N74-16801 |
| [RISA-TT-F-15307] SEMBERA, F- | - |
| prospects for the utilization of Czechoslovakia | |
| [NASA-TT-F-15305] | 02 p0048 ¥74-15766 |
| SERREGLI, G. Observations on modern wind-elec | otric power plants 02 p0045 x74-15745 |
| [NASA-TT-F-15357] SHABLOVSKII, V. K. | - |
| Spaceborne sources of electric I | power 02 p0040 174-24986 |
| SHARKO, J. R. Quantitative energy studies and | models: A state |
| of the art review | 02 p0070 N74-18623 |
| | |

```
wind-powered machines
[NASA-TT-F-15149]
                                                         02 p0045 H74-15742
SERIDLINA, A. R.
    Magnetohydrodynamic method of obtaining electrical
energy (collected articles) 01 p0011 N74-1060
[AD-765933]
                                                         01 b0011 N74-10681
SHELEOV, Y. B.
Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and thermoelectric generator
                                                         02 00071 874-18723
       [JPRS-61359]
SHELTOE, E. B.
Aviation turbine fuels, 1972
                                                         01 D0014 N74-11592
SHENFER. K. I.
    SHEEK, K. 1.

DC generator for Kolkhoz wind powered generators

[NASA-TT-F-15347]

Lines of development of rural wind power plants

[NASA-TT-F-15513]

Q2 p0081 N74-20701
SHERRAN, M. B.
The sail wing windmill and its adaptation for use in rural India
                                                          02 p0056 N74-16771
SHRYBDLIN, A. Y.

Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and
        thermoelectric generator
                                                          02 p0071 N74-18723
        FJPRS-613591
SHIMADA, K. Electric power generation system directly from
        laser power
fwasa-cask-npo-13308-11
                                                          02 p0077 N74-19702
SHISHKOV, Y. V.

Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and thermoelectric generator
                                                          02 p0071 N74-18723
        [JPRS-61359]
 SHIENBUK, V. L.

Trends in the mechanization of the coal industry
and guarantee of patent-ability of designs that
are competitive on the world technological level
                                                          01 p0016 N74-11759
 SHYETSOY, G. A.

The notion of a conducting piston in a channel with variable inductance
                                                           02 p0036 A74-22279
      State of developments and research problem on the
         switching of silicon germanium alloy
thermoelectric elements
                                                           01 p0009 N74-10080
         FAD-7658451
 [AD-703040]
SILLIM, L. P., JR.
Major RED programs to meet the energy crisis
02 p0069 N74-18602
 SINCOFF, M. E.
The energy dilemma and its impact on air
        transportation [NASA-CR-135993]
                                                           01 p0015 N74-11743
 SINGER, P.
National energy policies
                                                           02 p0069 N74-16592
 SIZOV, N. I.
Spaceborne sources of electric power
                                                           02 p0040 A74-24986
  SLEVIN, B.
The assessment of an air-supported and propelled
         urban transport system
[CRANFIELD-CTS-1]
                                                           02 p0070 N74-18610
  SMIRNOV, L. P.
      Forecasting of technological progress for long-range planning of mining operations at coal
          mines
                                                            01 p0016 N74-11765
  SMITE, B. B.
Smith-Putnam wind turbine experiment
                                                            02 p0055 N74-16758
  SRITE, C. B.
California's electricity quandary. 3: Slowing the growth rate
[R-1116-NSF/CSA] 02 p0054 E74-
                                                            02 p0054 R74-16680
  SMITE, J. B.

#2-02 combustion powered steam-MHD central power
                                                            02 p0042 A74-27775
       H2-02 combustion powered steam-MHD central power
          systems
[NASA-TM-X-71512]
                                                            02 p0060 N74-16800
```

SHEFTER. Y. I.

| Light bulb heat exchanger for mag | | STRONKIN, V. A. | |
|---|--|---|---|
| <pre>generator applications - Prelim [NASA-TN-D-7534]</pre> | inary evaluation 02 p0067 N74-18557 | Aviation gas turbine engines (se) [AD-756810] | ected portions) - 01 p0011 N74-10751 |
| Salte, B. | 5- Fesser m. 1 15581 | STURM, G. P., JR. | • |
| NASA Lewis H2-02 hHD program [NASA-TH-X-71520] | 02 p0076 N74-19697 | The association of automotive fue with exhaust reactivity | el composition |
| SORDERGARD, B. Analysis of the possible use of w | ind power in | [PB-222609/0] SVEEDRUP, E. P. | 01 p0010 474-10129 |
| Sweden. Part 1: Wind power re of wind-power machines, prelimi 10 MW wind generators | | Design of high-temperature solid- fuel-cell batteries for maximum unit volume | |
| [NASA-TT-F-15441] | 02 p0077 x74-19708 | | 02 p0036 A74-22355 |
| SPANN, B. H. Balancing the supply and demand f | or natural gas 02 p0052 N74-16657 | SYRENEY, T. E. An introduction to the Princeton | sailwing windmill 02 p0056 N74-16769 |
| SPARLING, R. C. Outlook for energy in the United SPENCER, 3. D. | States to 1985 01 p0032 N74-15697 | SWEET, D. C. Relevance of ERTS to the State of [E74-10024] SMEORDS, E. | - |
| Energy program, 1972 [BM-IC-8612] | 02 p0080 N74-20619 | Capital requirements of the energ | y industries 02 p0052 N74-16654 |
| SPENGIRE, G. Aviation fuels and lubricants | _ | S2860, G. C. | Y - |
| WAIRTION INGLE AND INDITIONIES | 01 p0006 A74-18180 | The U.S. energy problem. Volume part A | 2: Appendices, |
| SPRBCACE, R. P. Method of forming a wick for a he | at pipe | [PB-207518] The U.S. energy problem. Volume | 01 p0017 N74-11795 2: Appendices, |
| [NASA-CASE-NPO-13391-1] STAATZ, M. H. | 02 p0074 N74-19584 | part B [P8-207519] | 01 p0017 #74-11796 |
| Nuclear fuels: Thorium | 01 p0029 N74-15258 | Energy storage by compressed air | 02 p0058 N74-16785 |
| STADBLHANN, H. Gas-beated 'heat pipe' vacuum fur | • | _ | |
| | | | |
| STARLEUTE, P. H. | 02 p0034 A74-19724 | TALLEY, W. W., II Hanergy: An energy management mo | del of the United |
| Turbo-actuators turn flow into me | Chanical output 02 p0041 174-27136 | States for the prediction of en resource consumption, environment | ergy demand, |
| STAUDER, J. W. Optimal electrical energy growth | strategies in an | assessment of new technology, a resource alternatives | nd energy |
| era of environmental concern | 02 p0080 N74-20697 | TAVIP, J. B. | 01 p0026 N74-14665 |
| STEPABOV, R. Photoelectric converters based on | • | Process for the simultaneous util | |
| heterojunctions | | geothernic and hydrodynamic ene [AEC-TR-7475] | rgy - 02 p0072 N74-18731 |
| STRIN, D. | 02 p0042 174-27752 | TAYLOR, R. J. Design considerations for a | |
| Importance and progress of wind pain Denmark | ower utilization | 100-mega oule/500-megawatt supe [AD-774736] | rflywheel 02 p0081 N74-20709 |
| [NASA-TT-F-15353] Utilization of wind power in agri- | 02 p0045 N74-15746 | TERABE, M. | |
| [NASA-TT-7-15345] | 02 p0046 N74-15752 | Present air pollution situation i and future counterneasures | e vamasaki cità |
| Importance and progress of wind point in Denmark | ower utilization | [KS-27] THEOBALD, P. K. | 01 p0018 N74-12321 |
| (NASA-TT-F-15349) | 02 p0046 N74-15754 | Energy resources of the United St | |
| The importance of and progress in of wind power in Denmark | the utilization | [CIRC-650] Buergy resources of the United St | 01 p0031 N74-15685 ates |
| [NASA-TT-F-15333] New wind power station | 02 p0047 B74-15758 | [CIRC-650] THOMAS, G. | 02 p0075 x74-19614 |
| [NASA-TT-P-15332] STEIMER, J. | 02 p0048 x74-15767 | ERTS-1 imagery use in reconnaissa | nce prospecting: |
| Airline airplanes for the eightie | | Evaluation of the commercial ut imagery in structural reconnais | ility of ERTS-1 sance for |
| STEINER, J. E. | 02 p0036 A74-23464 | uínerals and petroleum [E74-10007] | 01 p0013 N74-11148 |
| The technology and economics of control airplane design. I | | THOMAS, G. R. ERTS-1 imagery use in reconnaissa | nce prospecting: |
| STRYOUICH, W. A. Sowiet geothermal electric power of | 01 p0001 A74-10144 | Evaluation of commercial utilit imagery in structural reconnais | y of ERTS-1 |
| report 2 | - - · | minerals and petroleum [874-10345] | 02 p0082 N74-20948 |
| [AD-754947] STODHART, A. H. | 02 p0048 N74-15776 | TRONAS, R. L. Status of wind-energy conversion | • |
| Wind data for wind driven plant | AD WARES WITH 1575A | | 02 p0042 A74-27772 |
| STOFEL, R. Spacecraft electrical power | 02 p0056 N74-16768 | Solar energy to meet the nation's [NASA-TH-I-68290] | energy needs 01 p0011 N74-10754 |
| - | 01 p0002 A74-12201 | NASA presentation | 02 p0060 N74-16799 |
| STOINMOV, V. Photoelectric converters based on beterojunctions | various CdS | Status of wind-energy conversion [NASA-TH-X-71523] | 02 p0077 N74-19705 |
| • | 02 p0042 A74-27752 | TILLHAW, B. S., JR. Eydrogen generator | |
| STOLL, R. Thermoelectric generators | | [AD-767402] TIMBERGAUS, K. D. | 01 p0024 k74-13766 |
| STRAKEY, J. P., JR. | 01 p0002 A74-13448 | Cryogenic Engineering Conference, | University of |
| Analyses of tars, char, gases, and | water found in | Colorado, Boulder, Colo., Augus Proceedings | |
| effluents from the synthane prod (BM-TPR-76] | cess 02 p0049 ¥74-15808 | | 01 p0003 A74-14043 |

| TITOV, V. H. |
|---|
| The motion of a conducting piston in a channel with variable inductance |
| 02 p0036 A74-22279 |
| TITTERINGTON, W. A. Status and applicability of solid polymer |
| and oxiden brognetion electrolistic ularoden |
| 02 p0058 N74-16782 |
| Introduction to Voigt's wind power plant 02 p0055 N74-16762 |
| Voight variable speed drive 02 p0057 N74-16779 |
| TOSH, J. D. |
| Performance of Army engines with leaded and unleaded gasoline. Phase 1: Laboratory testing [AD-766760] 02 p0061 N74-17523 |
| TOWSEY, W. B., JR. A bibliography of Congressional publications on |
| energy from the 89th Congress to 1 July 1971 02 p0051 N74-16642 |
| TREBLE, F. C. The RAE lightweight solar array 02 p0039 A74-24921 |
| Solar energy conversion for spacecraft |
| 02 p0041 174-26817 |
| Effect of water injection on nitric oxide emissions of a gas turbine combustor burning |
| natural gas fuel |
| TCCHARTS B. 1. |
| Strip-mined watershed bydrologic data acquisition study |
| [PB-223558/8GA] 01 p0025 N74-14105 TSE, A. H. |
| Si-Au Schottky barrier nuclear battery |
| PERCANT. C. |
| A model of convex programming for turbojet main parameter selection optimization |
| [ASME PAPER 74-GT-79] 02 p0042 R74-27466 TIEVENEO, B. V. |
| Possibilities of the thin solar battery applications for the terrestrial use units |
| 02 p0038 A74-24912 |
| Fracture of coal and oil shale for in situ processing or remote removal: A proposal |
| support document |
| [SLB-73-946] 02 p00/3 N/4-1904/ |
| U |
| Qualitative analysis of the efficiency of MHD |
| energy conversion 01 p0003 174-13944 |
| UMAROV, G. Y. Some results of testing of a solar water heating |
| installation during the heating season |
| [AD-754628] 02 poude 8/4-15/// |
| · V |
| VAETH, J. G. The airship can uset the energy challenge 02 p0034 A74-20166 |
| матьюма. Л. С. |
| Characterization of particulates and other non-regulated emissions from mobile sources and the effects of exhaust emissions control devices |
| on these emissions [PB-224243/6GA] 02 p0066 N74-18294 |
| VANCE, W. Vertical axis wind rotors: Status and potential |
| 02 p005/ 8/4-30//4 VANHEYS, J. W. |
| Utilization of wind power [NASA-TT-F-15300] 02 p0046 N74-15756 |
| VANIS, V. E. Characteristics of a nonequilibrium MHD generator |
| 01 p0005 A74-17439 |
| VANIZHREP, R. Aviation needs and public concerns 02 p0062 N74-17685 |

VANLEHNER. B. MERRIER, B. Aviation needs and public concerns 01 p0027 m74-14749 VANSANT, J. H. Sind utilization in remote regions: An economic study 02 p0058 N74-16790 VARGA, G. E., JR.
Potential pollutants in fossil fuels
[PB-225039/7GA] 02 02 p0066 #74-18313 VARGAS P., C.
Oil exploration subprogram geological
interpretation of images provided by the ERTS-A gatellite 01 p0028 N74-15070 [NASA-TT-F-15265] VETRELLA. 5. The use of the pressurized balloon for detecting energy resources 02 p0033 174-19473 VEZZNI, R.

Medium-capacity air motor pilot plant with
hydraulic energy accumulation by pumping
[NASA-TT-F-15299] 02 p0046 M74-15755
The utilization of the wind energy
[NASA-TT-F-15344] 02 p0048 M74-15769

VOROD'RY, V. S.
Optimization of the power of Faraday MHD
generators operating on nonequilibrium plasma
01 p0003 A74-13943 01 p0003 A74-13943 Approach to the holistic analysis of the system man-energy-environment
[JUL-982-RG] 02 p0080 N74-20626 MALKER, R. D., JR. Mass transfer in fuel cells 01 p0009 x74-10075 [NASA-CR-134519] WALTERS, R. L. Research on the application of satellite remote sensing to local, state, regional, and national programs involved with resource management and environmental quality [NASA-CR-136472] 01 b0024 N74-14093 PANG, T. G. MANG, T. G.

Heat operated cryogenic electrical generator
[NASA-CASE-NPO-13303-1] 02 p0077 N74-1970
WARDE, C. J.

Design of high-temperature solid-electrolyte
fuel-cell batteries for maximum power output per 02 p0077 N74-19701 unit volume 02 p0036 A74-22355 DATSON. J. Laves, ...
Investigation in energy transfer and energy
conversion for advanced power and propulsion 02 p0067 N74-18417 [AD-7715811 WITSON, R. D. Quantification of the luminescence intensity of natural materials 01 p0005 A74-14892 WAYLAND, R. G. Classification of public lands valuable for geothermal steam and associated geothermal resources 02 p0049 #74-16049 [CIRC-6471 WEART, W. D.
Fracture of coal and oil shale for in situ
processing or remote removal: A proposal
support document 02 p0073 N74-19047 [SLA-73-946] WEIL, K. H. The hydrogen IC engine: Its origins and future in the emerging energy-transportation-environment system 02 p0067 #74-18403 [REPT-729212] WEISSENBORM, A. E. Nuclear fuels: Uranium 01 p0028 N74-15257 WEIST, G. Investigation of the relative merits of different power plants for STOL-aircraft with blown flap application

02 p0078 N74-20406

01 p0003 A74-13559

| WELDON, D. H. | WITTE, H. |
|--|--|
| Design options and tradeoffs in superconducting | Economy and practical applications of large |
| magnetic energy storage with irreversible | wind-driven power plants, part 1 |
| switching | |
| [LA-UR-73-910] 02 p0074 N74-19375 | [NASA-TT-P-15308] 02 p0045 N74-15741 |
| | The economy and practicality of large scale wind |
| VENTINE, T., JR. | generation stations (conclusion) |
| Surface wind characteristics of some Aleutian | [NASA-TT-F-15348] 02 p0060 x74-16802 |
| Islands | HOBBER, F. J. |
| 02 p0056 N74+16766 | Study of application of ERTS-A imagery to |
| PERTS, G. C. | fracture-related mine safety hazards in the coal |
| Energy in general | |
| | mining industry |
| 02 p0068 K74-18587 | [E74-10083] 01 p0014 N74-11195 |
| RHISHAN, M. L. | Application of ERTS-1 imagery to fracture related |
| Waste lubricating oil research: An investigation | mine safety hazards in the coal mining industry |
| of several re-refining methods | [E74-10238] 02 p0049 N74-16007 |
| [BM-RI-7884] , 02 p0078 N74-20069 | Application of EREP imagery to fracture-related |
| WEITE, D. B. | mino cafety hamado and opplemental matter |
| Classification of public lands valuable for | mine safety hazards and environmental problems |
| qeothermal steam and associated geothermal | in mining |
| | [E74-10258] 02 p0049 N74-16019 |
| resources | Study of application of ERTS-A imagery to |
| [CIRC-647] 02 p0049 N74-16049 | fracture-related sine safety hazards in the coal |
| WHITEHEAD, A. H., JR. | mining industry |
| Aeronautical fuel conservation possibilities for | [E74-10336] 02 p0065 N74-18012 |
| advanced subsonic transports | HOLF, M. |
| [NASA-TM-X-71927] 02 p0080 N74-20654 | Solar energy utilization by physical methods |
| WHITTLE, G. P. | |
| Investigations using data in Alabama from ERTS-A | 02 p0042 A74-27323 |
| | WOODARD, J. B., JR. |
| [874-10124] 01 p0023 N74-13051 | modeling of electric power demand growth |
| WIEB, C. B. | [PB-224045/5GA] 02 p0054 N74-16690 |
| Study of application of BRTS-A imagery to | |
| fracture-related mine safety bazards in the coal | |
| mining industry | Y |
| [E74-10083] 01 p0014 N74-11195 | • |
| Application of ERTS-1 imagery to fracture related | YANG, Y. Y. |
| | Satellite nuclear power station: An engineering |
| mine safety hazards in the coal mining industry | analysis |
| [E74-10238] 02 p0049 N74-16007 | 01 p0002 A74-13234 |
| Application of EREP imagery to fracture-related | YASNOWSKY, P. N. |
| mine safety hazards and environmental problems | Determining the effects of gasoline price on use |
| in mining | of metals in automobile manufacture |
| [E74-10258] 02 p0049 N74-16019 | |
| Study of application of ERTS-A imagery to | |
| fracture-related mine enfety because to the same | YEAGER, E. T. |
| fracture-related mine safety hazards in the coal | General aviation cost impact study. Volume 1: |
| mining industry | Executive summary |
| | |
| [874-10336] 02 p0065 N74-18012 | |
| WIESWER, Q. | [AD-771603] 02 p0062 N74-17779 |
| WIESHER, Q. The effect of aerodynamic parameters on power | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: |
| WIESHER, Q. The effect of aerodynamic parameters on power | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills | [AD-771603] 02 p0062 N74-1779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: |
| WIESNER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 |
| WIESKER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. M. |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. H. |
| WIESKER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Sotion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. | [AD-771603] 02 p0062 N74-1779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 YEN Y. A. Optical properties of thin gold films applied to |
| WIESKER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Sotion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN 7. N. Optical properties of thin gold films applied to Schottky barrier solar cells |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 | [AD-771603] 02 p0062 N74-1779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 YEN Y. A. Optical properties of thin gold films applied to |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 YEN Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 |
| WIESKER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 YEN Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 ISH Y. H. Optical properties of thin gold films applied to Schottky barrier Bolar cells [NASI-CR-137981] 02 p0076 N74-19698 |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN 1. N. Optical properties of thin gold films applied to Schottky barrier Bolar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN 1. N. Optical properties of thin gold films applied to Schottky barrier Bolar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Sotion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN T. H. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 YEM 7. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Sotion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEH Y. H. Optical properties of thin gold films applied to Schottky barrier solar cells [NASI-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turboneca | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN T. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy |
| WIESKER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. N. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. |
| WIESERR, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. M. Optical properties of thin gold films applied to Schottky barrier Bolar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric haraonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCON, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] VILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. N. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy 2AKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season |
| WIESERR, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Sotion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] 01 p0014 N74-11727 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN T. N. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy 2AKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 |
| WIESERR, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture bistory of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric haraonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric haraonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. |
| WIESER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] O1 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] O1 p0014 N74-11728 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat |
| The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] VILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] VILLIAMS, R. E. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. N. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 Z ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy 2AKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0098 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven |
| The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] VILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] VILLIAMS, R. E. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 THE I. B. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. B. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels |
| WIESER, 4. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] O1 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] O1 p0014 N74-11728 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels |
| WIESERR, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Sotion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] 01 p0014 N74-11728 WILLIAMS, R. E. The implications for air transportation of energy sbortage | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. N. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy 2AKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels 02 p0036 A74-23221 |
| The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Sotion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis O1 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] O2 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134175] WILLIAMS, R. B. The implications for air transportation of energy shortage | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 THE I. B. Optical properties of thin gold films applied to Schottky barrier Bolar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. B. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] WILLIAMS, R. S. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels 02 p0036 A74-23221 ZARESKI, G. K. Natural gas supply in the decade of the seventies |
| WIESERR, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] WILLIAMS, R. E. The implications for air transportation of energy shortage 02 p0033 A74-19486 WILLIAMS, R. S., JR. Satellite geological and geophysical remote | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels 02 p0036 A74-23221 ZARESKI, G. K. Natural gas supply in the decade of the seventies |
| The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy (NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary (NASA-CR-134175) A hydrogen energy carrier. Volume 2: Systems analysis (NASA-CR-132176) WILLIAMS, R. E. The implications for air transportation of energy shortage 02 p0033 A74-19486 WILLIAMS, R. S., JR. Satellite geological and geophysical remote | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 YEH Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MRD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134175] O1 p0014 N74-11728 WILLIAMS, R. B. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] O1 p0014 N74-11188 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies D2 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 |
| WIESERR, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] VILLIAMS, R. E. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] O1 p0014 N74-11188 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies D2 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 |
| The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] 01 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] WILLIAMS, R. E. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] WILLIAMS, R. F. | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEH Y. H. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, E. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134175] O1 p0014 N74-11728 WILLIAMS, R. B. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] UILSON, B. B. The Oregon State University wind studies 02 p0059 N74-16792 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 THE N. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, NO. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy 2AKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15717 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with fossil or nuclear fuels |
| WIESWER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] O1 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-132176] WILLIAMS, R. E. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] WILLIAMS, R. E. The Oregon State University wind studies 02 p0059 N74-16792 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN I. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a sclar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with fossil or nuclear fuels [AD-766500] 01 p0012 N74-10949 |
| WIESWER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] O1 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-132176] WILLIAMS, R. E. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] WILLIAMS, R. E. The Oregon State University wind studies 02 p0059 N74-16792 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHABOV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy 2AKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels 2ARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with foesil or nuclear fuels [AD-76500] 01 p0012 N74-10949 Investigation of a non-equilibrium MHD generator |
| WIESERR, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] O1 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] WILLIAMS, R. E. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] WILLIAMS, R. E. The Oregon State University wind studies 02 p0059 N74-16792 WINGER, J. G. Outlook for energy in the United States to 1985 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 YEH Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy 2AKHIDOV, E. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chenical reaction rates on heat transfer to the walls of combustion-driven supersonic HHD generator channels 2ARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDREER, B. Closed cycle MHD for central station power with fossil or nuclear fuels [AD-766500] 01 p0013 N74-10949 Investigation of a non-equilibrium HHD generator [AD-766493] 01 p0013 N74-10950 |
| WIESMER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] WILLIAMS, N. Astafan - A new concept from Turboneca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134175] O1 p0014 N74-11728 WILLIAMS, R. B. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland (E74-10073] WILSON, B. E. The Oregon State University wind studies 02 p0059 N74-16792 WINGER, J. G. Outlook for energy in the United States to 1985 01 p00032 N74-15697 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEN Y. M. Optical properties of thin gold films applied to Schottky barrier Bolar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, R. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with fossil or nuclear fuels [AD-766500] 01 p0012 N74-10949 Investigation of a non-equilibrium MHD generator [AD-766493] 01 p0013 N74-10950 ZER, CR. |
| WIESERR, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] O1 p0014 N74-11727 A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] WILLIAMS, R. E. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] WILLIAMS, R. E. The Oregon State University wind studies O2 p0059 N74-16792 WINGER, J. G. Outlook for energy in the United States to 1985 DINSTON, R. UNINTON, R. O2 p0032 N74-15697 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEH Y. H. Optical properties of thin gold films applied to Schottky barrier solar cells [NASI-CR-137981] 02 p0076 N74-19698 ZAKHIROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, E. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with fossil or nuclear fuels [AD-766500] 01 p0012 N74-10949 Investigation of a non-equilibrium MHD generator [AD-766493] ZEE, CH. Effect of the sun, the moon and solar radiation |
| The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] VILLIAMS, R. E. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] UILLIAMS, R. S., JR. Satellite geological and seophysical remote sensing of Iceland [E74-10073] UILLIAMS, R. S., JR. The Oregon State University wind studies O2 p0059 N74-16792 WINGER, J. G. Outlook for energy in the United States to 1985 O1 p0032 N74-15697 BINSTON, R. Solar concentrators of a novel design | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEH Y. H. Optical properties of thin gold films applied to Schottky barrier solar cells [NASI-CR-137981] 02 p0076 N74-19698 ZAKHIROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, E. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with fossil or nuclear fuels [AD-766500] 01 p0012 N74-10949 Investigation of a non-equilibrium MHD generator [AD-766493] ZEE, CH. Effect of the sun, the moon and solar radiation |
| WIESWER, W. The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] 02 p0071 N74-18721 WILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] WILLIAMS, R. E. The implications for air transportation of energy shortage WILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland [E74-10073] WILLIAMS, R. F. The Oregon State University wind studies 02 p0059 N74-16792 WINSTON, R. Outlook for energy in the United States to 1985 01 p0032 N74-15697 | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 YEH Y. M. Optical properties of thin gold films applied to Schottky barrier solar cells [NASA-CR-137981] 02 p0076 N74-19698 ZAKHAROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy 2AKHIDOV, E. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0034 A74-20067 ZANKL, G. Effect of finite chenical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels 2ARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with fossil or nuclear fuels [AD-766500] 01 p0012 N74-10949 Investigation of a non-equilibrium MHD generator [AD-7666403] 01 p0013 N74-10950 ZEE, CH. Effect of the sun, the moon and solar radiation pressure on a near-equatorial synchronous |
| The effect of aerodynamic parameters on power output of windmills 02 p0056 N74-16773 WILCOX, C. Botion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 WILLIAMS, J. R. Satellite nuclear power station: An engineering analysis 01 p0002 A74-13234 Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: Solar energy [NASA-CR-137242] VILLIAMS, N. Astafan - A new concept from Turbomeca 02 p0037 A74-24697 WILLIAMS, R. D. A hydrogen energy carrier. Volume 1: Summary [NASA-CR-134175] A hydrogen energy carrier. Volume 2: Systems analysis [NASA-CR-134176] VILLIAMS, R. E. The implications for air transportation of energy shortage VILLIAMS, R. S., JR. Satellite geological and geophysical remote sensing of Iceland (E74-10073] VILLIAMS, R. S. The Oregon State University wind studies VINGER, J. G. Outlook for energy in the United States to 1985 Outlook for energy in the United States to 1985 Outlook R. Solar concentrators of a novel design | [AD-771603] 02 p0062 N74-17779 General aviation cost impact study. Volume 2: Research methodology [AD-771606] 02 p0062 N74-17780 General aviation cost impact study. Volume 3: Planning guide [AD-771759] 02 p0062 N74-17781 TEH Y. H. Optical properties of thin gold films applied to Schottky barrier solar cells [NASI-CR-137981] 02 p0076 N74-19698 ZAKHIROV, IU. E. Effect of dry friction on the response to a symmetric harmonic signal of an energy converter producing mechanical energy ZAKHIDOV, E. A. Some results of testing of a solar water heating installation during the heating season [AD-754628] 02 p0048 N74-15777 ZANKL, G. Effect of finite chemical reaction rates on heat transfer to the walls of combustion-driven supersonic MHD generator channels ZARESKI, G. K. Natural gas supply in the decade of the seventies 02 p0074 N74-19586 Natural gas availability: Present and future 02 p0075 N74-19587 ZAUDERER, B. Closed cycle MHD for central station power with fossil or nuclear fuels [AD-766500] 01 p0012 N74-10949 Investigation of a non-equilibrium MHD generator [AD-766493] ZEE, CH. Effect of the sun, the moon and solar radiation |

ZHIRITSKII, G. S.
Aviation gas turbine engines (selected portions)
[AD-756810]
CINKE, O. H.
Energy in the near term

02 p0079 N74-20517

02 p0079 N74-20617

ZRAKET, C. A.

Energy, resources and the environment
[M72-180-REV-1] 01 p0032 R74-15695
Introductory remarks

02 p0068 #74-18583

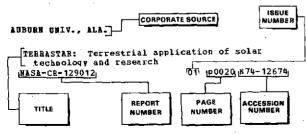
ZRALY, A. J.
Outlook for energy in the United States to 1985
01 p0032 M74-15697

CORPORATE SOURCE INDEX

ENERGY / A Continuing Bibliography (Suppl. 02)

NOVEMBER 1974

Typical Corporate Source Index Listing



The title of the document is used to provide a brief description of the subject matter. The issue, page number and NASA or IAA accession number are included in each entry to assist the user in locating the abstract in the abstract section of an individual supplement of Energy. If applicable, a report number is also' included as an aid in identifying the document.

ABROVIRONMENT, INC., PASADENA, CALIF. Wind machines

02 p0059 N74-16797

AEROWATT CORP., PABIS (FRANCE).
. Prench wind generator systems

02 p0059 N74~16793 AIR FORCE SYSTEMS COMMAND, PRIGHT-PATTERSON APB.

Magnetohydrodynamic method of obtaining electrical energy (collected articles) 01 p0011 N74-10681 [40-765933] Aviation gas turbine engines (selected portions)
[AD-756810] 01 p0011 x74-10751 Self-contained low power atomic plants
[AD-7669691 01 p0014 874-11519 [AD-766969] -pass engines

02 p0074 N74-19413 [AD-772723] Problem of the application of turbofan engines in air transport. Methods of increase in efficiency of turbofan engine with high bypass

ratios 02 p0079 874-20453

[AD-773292] State-of-the-art and prospects of magnetoelectric machines for self-contained electrical supply systems and controllable electrical drivers

[AD-773093] 02 p0081 K74-20703 Dependence of efficiency and specific characteristics of fuel cells on discharge

conditions 02 p0081 N74-20704 [AD-773264]

AIRESEARCH MFG. CO., PHOENIX, ANIX.
Low NOx emission combustor development for
automobile gas turbine engines
[PB-225133/8GA] 02 p0067 N

02 p0067 N74-18414

ALABAMA UNIV. UNIVERSITY.

Investigations using data in Alabama from ERTS-A

[B74-10124] 01 p0023 N74-13051 ALASKA UNIV., PAIRBANKS. Surface wind characteristics of some Aleutian

Islands

02 p0056 N74-16766 ALLTS-CHALMERS MFG. CO., YORK, PA.

Smith-Putnam wind turbine experiment 02 p0055 N74-16758 Motion picture history of the erection and operation of the Smith-Putnam wind generator 02 p0055 N74-16759 AMERICAN UNIV., WASHINGTON, D.C.
Research on electrochemical energy conversion sustems 01 p0013 N74-10951 FAD-7663291 APPLIED PHYSICS LAB., JOHNS HOPKINS UNIV., SILVER SPRING, MD. Superflywheel energy storage System 02 p0058 ¥74-16783 Design considerations for a 100-megajoule/500-megawatt superflywheel [AD-774736] 02 p0081 K 02 p0081 N74-20709 ARGONER NATIONAL LAB., ILL Experimental two-phase liquid-metal

magnetohydrodynamic generator program fAD-7665881 01 p0013 N74-10952 FAD-766588]

[ANI-8045] Solar energy evaluation group report
[ANI-8045] 02 p0061 N74-17527
ARIZONA UNIV., TUCSON.
Inversion layer solar cell fabrication and

evaluation 02 p0060 N74-16807 CNASA-CR-1369321

ARKARSAS UNIV., PAYETTEVILLE. Energy in the near term

DEFEND THE CHE HEEL CETS 02 POOTS N74-20617
ARMY AIR MOBILITY RESEARCH AND DEVELOPMENT LAS.,

CLEVELAND, OHIO.
A simplified life-cycle cost comparison of various engines for small helicopter use [NASA-TM-X-71517] 02 p0074 N 02 p0074 N74-19405 ARMY AIR MOBILITY RESEARCH AND DEVELOPMENT LAB. .

Rotor dynamic considerations for large wind

power generator systems 02 b0056 N74-16772

ARMY COATING AND CHEMICAL LAB., ABBRDESH PROVING GROUND, MD. Thermal-oxidative stability of automotive diesel

fuels [AD-758146] 02 p0049 N74-15817 ARMY CONSTRUCTION ENGINEERING RESEARCH LAB.,

CHAMPAIGN, ILL. Advanced electrical power generation and

distribution concepts for military facilities (AD-7654761 ARMY FOREIGN SCIENCE AND TECHNOLOGY CRUTER,

CHARLOTTESVILLE, VA.
State of developments and research problem on

the switching of silicon germanium alloy thermoelectric elements 01 p0009 N74-10080 [AD-765845]

Possibility of commutating thermoelectric batteries with the aid of mercury amalga: 01 p0010 N74-10084 [AD-756068] Connerical petroleum products, properties and

applications [AD-754703] Catalytic combustion of carbon monoxide in

gasoline engine exhaust using manganese catalysts
[AD-760395]

Lau-/60395] 01 p0011 R74-10874 Significant research results for 1971, High Temperature Institute, USSR Academy of Sciences [AD-765753] 01 p0012 NT P0012

some results of testing of a solar water heating installation during the heating season
(AD-754628) 02 p0048 N74-15777 [AD-754628]

Direct energy conversion methods
[AD-770000] 02 p0061 N74-16816

Multifuel diesel engines [AD-771198/9GA] 02
ARRY WAR COLL., CARLISLE BARRACKS, PA. 02 p0074 N74-19408

United States petroleum situation through 1980
[AD-761576] 02 p0054 #74-16691 [AD-761576]

```
The US energy crisis, the multinational oil
                                                                                                  Aviation turbine fuels, 1972
          corporations and their relationship to US
                                                                                                                                                   01 p0014 N74~11592
          foreign policy in the Middle East [AD-760868] 02
                                                                                                  Selected list of Bureau of Mines publications on
petroleum and natural gas, 1961-1970
                                                      02 p0055 N74-16697
 ARO-100000, ARNOLD AIR PORCE STATION, TERM.

Development of design criteria, cost estimates, and schedules for an MHD high performance
                                                                                                      BM-IC-8534]
                                                                                                                                                   01 p0032 #74-15691
                                                                                                 Aldehyde and reactive organic emissions from motor vehicles. Part 1: Advanced automotive control systems vehicles
[PB-224251/9Ga] 02 p0050 N74-16332
Aldehyde and reactive organic emissions from motor vehicles. Part 2: Characterization of emissions from 1970 through 1973 model vehicles.
[PB-224252/7GA] 02 p0050 N74-16333
                                                                                                  Aldehyde and reactive organic emissions from
          demonstration experiment
         [AD-766232]
                                                       01 p0017 N74-11852
  ATOBIC EMBEGY COUNISSION, WASHINGTON, D.C.
Energy R and D inventory data base.
Bibliography, 1973
                                                       01 p0017 N74-11849
      Energy options for the future
                                                                                                  Waste lubricating oil research; An
                                                                                                    investigation of several re-refining methods
[BM-RI-7864] 02 p0078 N74-2
                                                       02 p0069 N74-18599
      Process for the simultaneous utilization of
                                                                                                                                                  02 p0078 N74-20069
         geothermic and hydrodynamic energy [AEC-TR-7475] 02 p
                                                                                                 Energy program, 1972
[BH-IC-8612]
                                                       02 p0072 N74-18731
 AUBURN UBIV., ALA.
TERRASTAR: Terrestrial application of solar
                                                                                                                                                  02 p0080 x74-20619
                                                                                             BURRAN OF MIMES, MORGANTOWN, W.VA.
Directional properties of coal and their
utilization in underground gasification
         technology and research [NASA-CR-129012]
                                                       01 p0020 N74-12674
                                                                                                     experiments
      Energy consumption: Past, present, future
                                                                                                    [BH-TPR-73]
                                                                                                                                                  01 p0018 N74-12159
                                                       0.1 p0020 N74-12675
                                                                                             Noncaking coal gasified in a stirred-hed producer
[BH-TPR-77] 02 p0073 N74-1917
BUREAU OF MINES, PITTSBURGH, PA.
      Energy and resource consumption
                                                       01 p0020 N74-12676
                                                                                                 HAN OF HIMSS, FILLSON, 125.
Analyses of tars, char, gases, and water found in effluents from the synthane process [BB-TPR-76]

02 p0049 N74-15808
      Energy resources
                                                       01 p0020 N74-12677
      Components for solar energy
                                                       01 p0020 N74-12678
                                                                                                     economic evaluation of MHD-steam powerplants
      Solar heating and cooling buildings
                                                                                            employing coal gasification
[BM-RI-7796]

BURRAU OF MIMES, WASHINGTON, D.C.

The association of automotive fuel composition
                                                       01 p0020 N74-12679
                                                                                                                                                  02 p0051 N74-16620
      Solar power generation and distribution
                                                       01 p0021 N74-12680
      National energy policy
                                                                                                    with exhaust reactivity
                                                      01 p0021 N74-12681
                                                                                                    [PB-222609/0]
                                                                                                                                                  01 p0010 N74-10129
      Solar energy potential
                                                                                                 Determining the effects of gasoline price on use of metals in automobile manufacture
[BM-RI-7871] 02 p0062 N74-1766
                                                      01 p0021 N74-12682
     Impacts of solar energy utilization
                                                                                                                                                 02 p0062 N74-17666
                                                      01 p0021 N74-12683
                                                                                                 Energy potential from organic wastes: A review
      Market potential for solar heating and cooling
                                                                                                   of the quantities and sources [BM-IC-8549]
         in buildings
                                                                                                                                                 02 p0072 N74-18815
                                                      01 p0021 N74-12684
     Strategy for solar heating and cooling in
        buildings
                                                                                            CALIFORNIA INST. OF TECH., PASADENA.

Time factors in slowing down the rate of growth
of demand for primary energy in the United
                                                      01 p0021 N74-12685
                                      8
                                                                                                    States
 BATTELLE COLUMBUS LABS., DHIO.
General aviation cost impact study. Volume 1:
                                                                                                [EQL-7] 01 p0030 N74-15667 Determination of optimal air pollution control
                                                                                                   [ EQL-7]
        Executive summary [AD-771603]
                                                                                                   strategies
                                                      02 p0062 N74-17779
                                                                                                                                                 02 p0073 N74-19229
     General aviation cost impact study. Volume 2:
                                                                                            CALIFORNIA STATE DNIV., SAN DIEGO.
Bucket rotor wind-driven generator
     Research methodology
[AD-771606] 02 p0062 N74-17780
General aviation cost impact study. Volume 3:
                                                                                                                                                 02 p0057 N74-16776
                                                                                            CALIFORNIA UNIV., BERKELEY. LAWRENCE BERKELEY LAB.
Calculations on a solar energy system
General aviation cost impact study.
Planning guide
[AD-771759] 02 pt
BORING ARROSPACE CO., SEATTLE, WASH.
High voltage solar array experiments
[NASA-CR-121280] 02 pt
BOEING COMBERCIAL AIRPLANE CO., SEATTLE,
Phone and us headed in air transports
                                                      02 p0062 N74-17781
                                                                                                   [LBL-1773]
                                                                                                                                                 01 p0023 N74-13538
                                                                                            CALIFORNIA UNIV., LIVERMORE. LAWRENCE LIVERMORE LAB.
Solar ponds extended
                                                    02 p0063 N74-17788
                                                                                                   [ DCID-16317]
                                                                                                                                                 01 p0023 N74-13537
     ING COMMERCIAL AIRPLANE CO., SEATTLE, WASH. Where are we headed in air transport?
                                                                                                Energy in general
                                                                                                                                                 02 p0068 x74-18587
                                                      01 p0020 N74-12669
                                                                                                An energy ethic
BOEING VERTOL CO., PHILADELPHIA, PA.

The effect of aerodynamic parameters on power output of windmills
                                                                                                                                                 02 p0069 N74-18593
                                                                                            CALIFORNIA UNIV., RIVERSIDE.
                                                                                                Feasibility study for development of hot-water geothermal systems
[AD-771016] 02 p0064 N74-1
                                                     02 p0056 N74-16773
BRIGHAM YOUNG UNIV., PROVO, UTAM.
Kinetics of coal gasification in a low pressure,
       CENTRAL ELECTRICITY GENERATING BOARD, LONDON
                                                                                            (ENGLAND) .
                                                                                                Econometric models: Their application to the
BROOKHAVEN NATIONAL LAB., OPTON, N.Y.
Hydrogen economy
[BNL-16224] 02 p0060 N
BROWN, BOWERI UND CIE, A.G., HEIDELBERG (WEST
                                                                                                   economic and energy sectors
                                                                                                   [CB-BIB-220]
                                                                                                                                                02 p0062 N74-17660
                                                                                           | CK-BLB-220| 02 pure 2 n.4-17000 |
Bearings for power station plant. A selective bibliography, 1960 - September 1973 |
[CE-BIB-28B.1] 02 p0073 N74-19113 |
CHANDLER EVANS, INC., WEST HARTFORD, CONN. |
Vapor generator feed pump for Rankine cycle antique propulsion everts (Chandler Evans)
                                                      02 p0060 N74-16809
GERMANY) .
    A novel method of cooling semiconductor devices
       for power electronics [BMPT-FBT-02]
                                                     01 p0015 N74-11739
                                                                                                  automotive propulsion system (Chandler Evans)
[PB-222849/2] 01 p0011 N74-16
BUDGER AND ASSOCIATES, POINTE CLAIRE (QUEBEC).
                                                                                                                                                01 p0011 N74-10747
    A comment on towers for windmills
                                                                                           CHASE MANHATTAN BANK, MEN TORK.
Outlook for energy in the United States to 1985
                                                     02 p0059 N74-16795
BUREAU OF MINES, BARTLESVILLE, OKLA.
                                                                                                                                                01 p0032 N74-15697
    Natural gas as an automotive fuel, an experimental study [BM-RI-7806] 01 p0
                                                                                           CHICAGO UNIV., ILL.
                                                                                                Solar concentrators of a novel design
                                                     01 p0011 N74-10715
                                                                                                   (EFI-74-21]
                                                                                                                                                02 p0076 #74-19711
```

CITIZERS ADVISORY COMMITTEE ON ENVIRONMENTAL QUALITY, WASHINGTON, D.C.
Report to the president and to the council on
environmental quality 01 00024 874-14094 Major RED programs to meet the energy crisis 02 p0069 874-18602 CITY OF ST. LOGIS, No.

Energy recovery from waste: Solid waste as
supplementary fuel in power plant boolers 02 p0076 N74-19699 CCU-36h TT 1 COMMISSION OF THE EUROPEAN COMMUNITIES, BRUSSELS (BELGIOM) . The energy situation in the community, situation 1972, forecasts 1973 01 p0030 N74-15679 COMMITTEE OF RESONAUTICAL AND SPACE SCIENCES (U. S. SENATE) . Energy-related research and development 02 p0070 N74-18605
NASA authorization for fiscal year 1975, part 1
02 p0082 N74-21605 COMMITTEE OF BANKING AND CURRENCY (U.S. HOUSE) . EPA pollution regulations and fuel shortage: The impact on mass transit 01 p0027 N74-14690 COMMITTEE ON COMMERCE (U. 5. SZMATE).

Energy research and development, 2
01 p0027 N74-14692 Mational Puels and Energy Conservation Act of 1973 [S-REPT-93-526] 01 p0027 N74-14693 Council on Energy Policy 02 p0075 N74-19617 CONSTITUTER ON GOVERNMENT OPERATIONS (U. S. HOUSE) . Conservation and efficient use of energy, part 1
01 p0030 N74-15682
COMMITTE ON INTERIOR AND INSULAR AFFAIRS (U. S. SENATE). Pactors affecting the use of coal in present and future energy makers 01 p0031 N74-15684 Legislative authority of Pederal agencies with respect to fuels and energy: A staff analysis The President's energy message and S. 1570 01 p0031 N74-15686 Summary of the energy conservation and mmary of the energy conservation and development recommendations contained in the final report of the National Commission on A background paper 01 p0031 N74-15688 Materials Policy, June 1973: knergy conservation, part 1 01 p0031 N74-15690 A bibliography of non-technical literature on energy 02 p0051 N74-16641 publications on A bibliography of Congressional energy from the 89th Congress to 1 July 1971 02 p0051 N74-16642 Energy emergency legislation, part 02 p0052 N74-16662 ruel shortages, part 1 02 p0053 N74-16664 Puel shortages, part 2 02 p0053 N74-16665 The evolution and dynamics of national goals in the United States 02 p0053 N74-16666 A review of energy issues and the 91st Congress 02 p0053 N74-16667 Compact to conserve oil and gas 02 p0053 N74-16668 A staff analysis rederal Energy Organization: 02 p0053 N74-16669 Geothermal energy resources and research 02 p0053 N74-16670 A review of energy policy activities of the 92d Congress 02 p0062 N74-17669 Energy conservation and 5. 2176, part 2 02 p0070 N74-18622 The gasoline shortage: A national perspective 02 p0075 N74-19618 Conservation of energy 02 p0082 N74-21620 COMMITTEE ON INTERSTATE AND POREIGN COMMERCE (U. S. HOUSE) -Transportation controls under the Clean Air Act 02 p0082 N74-21625 [GPO-20-345]

COMMITTEE ON SCIENCE AND ASTRONAUTICS (U. S. HOUSE). Energy research and development and space technology 01 p0012 N74-10892 Solar energy for the terrestrial generation of electricity 01 p0012 N74-10896 Solar-energy for heating and cooling 01 p0016 N74-11787 Energy research and development: An overview of our national effort 01 p0016 N74-11788 University energy research centers 01 p0019 N74-12668 Energy facts 01 p0020 H74-12672 The Federal Government and energy: R and D historical background 01 p0021 N74-12687 An inventory of energy research, volume 1 01 p0021 N74-12688 An inventory of energy research, volume 2 01 p0021 N74~12689 Short term energy shortages Energy research and development and space technology technology 01 p0022 N74-12691 Individual action for energy conservation 01 p0030 N74-15680 Conservation and efficient use of energy, part 1 01 p0030 N74-15682 ceathermal energy 02 D0054 N74-16684 H.R. 11864: Solar Heating and Cooling Demonstration Act of 1974. Background and legislative history 02 p0075 N74-19604 COUNCIL ON ENVIRONMENTAL QUALITY, WASHINGTON, D.C. COUNCIL ON ENVIRONMENTAL QUALITY, WASHINGTON, D.C.
Energy and the environment: Electric power
[PB-223326/0GA] 01 p0028 N74-14791
CRAMPIELD INST. OF TECHNOLOGY (EMGLAND).
The assessment of an air-supported and propelled urban transport system [CRANFIELD-CTS-1] 02 p0070 H74-18610 Bagnetic suspension and guidance of high speed vehicles 02 p0072 N74-18892 fcTS-21 DARTHOUTH COLL., SANOVER, B.H. Si-Au Schottky barrier nuclear battery 01 P0017 N74-11851 [TID-26342] 01 p0
DECISION SCIENCES CORP., JENKINTONN, PA. Quantitative energy studies and models: A state of the art review 02 p0070 N74-18623 DEFENSE DOCUMENTATION CENTER, ALEXANDRIA, VA. Energy conversion [AD-771750] 02 p0071 N74-18638 Energy sources - Citations from the early DDC collections 02 p0081 N74-20705 [AD-773325] DENVER UNIT., COLO.

Balancing supply and denand for energy in the
United States

02 p0051 N74-16651
DEUTSCHE FORSCHUNGS- UND VERSUCHSANSTALT FUER LUFT-

UND RAUMFARRT, COLOGNE (WEST GERMAN).

The influence of individual components and of
their mechanical arrangement on the stationary operating behaviour of dual cycle propulsion engines

engines

O2 p0079 N74-20444

DEUTSCHE PORSCHUNGS- UND VERSUCHSANSTALT FUER LUFTUND RAUMFARRT, FORZ (WEST GERMANY).

Section 4: Propulsion and energy

O1 p0026 N74-14671

DOW CHEMICAL CO., HIDLAND, MICH.
Characterization of particulates and other
non-regulated emissions from mobile sources and the effects of exhaust emissions control devices on these emissions [PB-224243/6GA]
DUKE UNIV., DURBAM, N.C. 02 p0066 N74-18294

Performance characteristics of a pneumatic tube transportation system 02 p0072 N74-16888

| | EUROPEAN SPACE RESEARCH ORGANIZATION, PARIS (PRANCE). |
|---|--|
| E | The influence of individual components and of their mechanical arrangement on the stationary |
| EARTH SATELLITE CORP., WASHINGTON, D.C. | operating behaviour of dual cycle propulsion |
| Study of application of ERTS-A imagery to fracture-related mine safety bazards in the | engines |
| coal mining industry | 02 p0079 N74-20444 |
| [E74-10083] 01 p0014 N74-11195 Application of ERTS-1 imagery to fracture | F |
| related mine safety hazards in the coal mining | PEDERAL AVIATION ADMINISTRATION, WASHINGTON, D.C. |
| industry [E74-10238] 02 p0049 874-16007 | Power conditioning system for FAA air route |
| Application of EREP imagery to fracture-related | traffic control centers 01 p0019 N74-12636 |
| mine safety hazards and environmental problems in mining | PEDERAL POWER CONNISSION, WASHINGTON, D.C. |
| [874-10258] 02 p0049 N74-16019 | Percy Thomas wind generator designs |
| Study of application of BRTS-A imagery to | 02 p0055 N74-16760 Natural gas supply in the decade of the seventies |
| fracture-related mine safety hazards in the coal mining industry | 02 p0074 N74-19586 Natural gas availability: Present and future |
| [874-10336] 02 p0065 874-18012 | 02 p0075 N74-19587 |
| BASON OIL CO., OKLARONA CITY, OKLA. An evaluation of the suitability of ERTS data | PIAT S.P.A., TURIN (ITALY). |
| for the purposes of petroleum exploration | Engine cycle selection for conmercial STOL aircraft |
| [E74-10029] 01 p0018 N74-12119 Evaluation of the suitability of Skylab data for | 02 p0079 N74-20408 |
| the purpose of petroleum exploration | PIRST WATIONAL CITY BANK, NEW YORK. Capital requirements of the energy industries |
| [E74-10331] 02 p0065 N74-18007 ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE | 02 00052 174-16654 |
| (SWITZERLAND). | PLINDERS UNIV., BEDFORD PARK (AUSTRALIA). Controlled fusion research |
| Pnergy: Compiled bibliography and tables of world resources, consumption, and wastes | [FOPH-G-4] 02 p0074 R74-19290 |
| [LRP-63/73] 01 p0010 N74-10391 | FLORIDA UNIV., GAINESVILLE. Bass transfer in fuel cells |
| EDO CORP., COLLEGE POINT, N.Y. | [NASA-CR-134519] O1 p0009 K74-10075 |
| Experimental reel response system for high performance simplified aerial refueling store | • |
| [AD-771389] 02 p0064 N74-17799 | G |
| ELECTRICAL RESEARCH ASSOCIATION, SURREY (ENGLAND). Wind data for wind driven plant | GENERAL ELECTRIC CO., CINCINNATI, OHIO. |
| 02 p0056 N74-16768 | Hydrogen-methane fuel control systems for turbojet engines |
| BLECTRICITY COMMISSION OF NEW SOUTH WALES, SIDNEY (AUSTRALIA). | [NASA-CR-121247] 02 p0050 N74-16493 |
| Electricity: The conversion industry | GENERAL ELECTRIC CO., LYNH, MASS. Status and applicability of solid polymer |
| [NP-19837] 02 p0072 N74-18730 ENERGY RESEARCH CORP., BETHEL, CONN. | electrolyte technology to electrolytic |
| Electrolyte for hydrocarbon air fuel cells | hydrogen and oxygen production 02 p0058 N74-16782 |
| [AD-766313] Of p0010 N74-10085 Matrices for H3P04 fuel cells | GENERAL ELECTRIC CO., PHILADELPHIA, PA |
| [AD-766312] 01 p0010 N74-10086 | Closed cycle MHD for central station power with fossil or nuclear fuels |
| Hydrogen generator [AD-767402] 01 p0024 N74-13766 | [AD-766500] D1 n0012 N74=10949 |
| High energy sealed nickel-zinc batteries | Investigation of a non-equilibrium HBD generator [AD-766493] 01 p0013 N74-10950 |
| [AD-772944] 02 p0072 A74-19737 ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE | GENERAL ELECTRIC CO., SANTA BARBARA, CALIF. |
| PARK, N.C. | Use of hydrogen and hydrogen-rich components as a means of storing and transporting energy |
| The association of automotive fuel composition with exhaust reactivity | 02 p0057 N74-16781 |
| [PB-222609/0] 01 p0010 N74-16129 | GEOLOGICAL SURVEY, WASHINGTON, D.C. Satellite geological and geophysical remote |
| Applications of meteorology to natural resource planning | sensing of Iceland |
| 01 p0014 ¥74-11395 | [E74-10073] 01 p0014 E74-11188 Bitumen-bearing rocks |
| Compilation of air pollutant emission factors (second edition) | 01 p0028 N74-15226 |
| [PB-223996/0GA] 02 p0066 N74-18300 | Coal |
| Air pollution aspects of emission sources: Petroleum refineries; a bibliography with | Geothermal resources 01 p0028 #74-15230 |
| abstracts | Nuclear fuels: Oranium 01 p0028 N74-15240 |
| [AP-110] 02 p0073 N74-19228 | 01 p0028 N74-15257 |
| ENTIRONMENTAL PROTECTION AGENCY, WASHINGTON, D.C. Energy conservation strategies | Ruciear fuels: Thorium |
| [PB-224493/7Gl] 02 money w78_47800 | Oil and gas 01 p0029 N74-15258 |
| ESCHER TECHNOLOGY ASSOCIATES, ST. JOHNS, BICH. A problem statement: Ocean based | 01 p0029 N74-15259 |
| solar-to-bydrogen energy conversion macro system | Oil shale 01 p0029 #74-15260 |
| Prospects for liquid hydrogen fueled commercial | Peat |
| SILCISIF | Energy resources of the United States |
| [PR-37] 02 p0080 N74-20647 ESSO RESEARCH AND ENGINEERING CO., LINDEN, N.J. | [CIRC=650] 01 p0031 N74=15685 |
| rotautiai poliutants in iossil fuels | Classification of public lands valuable for geothermal steam and associated geothermal |
| [PB-225039/7GA] 02 p0066 N74-18313 Combustion and beat recovery of Air Force waste | resources |
| bactoredm ofth and Identicants | [CIRC-647] 02 p0049 N74-16049 Energy resources of the United States |
| [AD-774563] 02 p0082 N74-21391 EUROPEAN SPACE RESEARCH AND TECHNOLOGY CENTER, | [CIRC-050] 02 p0075 N78-1961h |
| MOORDAINE (BEINERFENDS)" | GEORGIA INST. OF TECH., ATLANTA. |
| Current European developments in solar paddle drives | Comparative evaluation of solar, fission, fusion, and fossil energy resources. Part 1: |
| 01 p0014 H74-11672 | Solar energy |
| | [NASA-CR-137242] 02 p0071 N74-18721 |

```
GONZALEZ (BICHARD J.), HOUSTON, TEX.
Future United States population, economic
growth, and energy demands
                                                     02 p0051 B74-16652
GOULD, IEC., HENDOTA HEIGHTS, MINE.
Fabrication and testing of negative-limited
sealed nickel-cadmium cells
                                                     01 p0009 N74-10078
[WASA-CR-135981] 01 p0009 #74-1007
GRUBERN ARROSPACE CORP., BETHPAGE, B.Y.
Advantages of the diffuser-augmented wind turbine
                                                     02 p0057 N74-16775
                                · H
BARVARD UMIV., CAMBRIDGE, MASS.
Mechanisms for achieving cleaner power, prices,
                                                     02 p0069 N74-18596
HITTHAN ASSOCIATES, INC., COLUMBIA, ND.
Assessment of SO2 control alternatives and
        implementation patterns for the electric
        ntility industry
[PB-224119/8GA]
                                                      02 p0050 N74-16339
 HOMENWELL, IEC., MINBEAPOLIS, MINN.
Application and durability of solar absorber
        coatings
                                                      02 p0049 N74-16264
 HOUSTON UNIV., TEX.

h hydrogen energy carrier. Volume 1: Summary
[NASA-CR-134175]

h hydrogen energy carrier. Volume 2: Systems
        analysis
                                                      01 p0014 N74-11728
      [MASA-CR-134176] 01 p0014 M74-
Summary of systems analysis of hydrogen as an
         energy carrier in the United States
     Current energy shortage in the United States
                                                      01 p0015 H74-11730
      Production of hydrogen
                                                      01 p0015 N74-11731
      Transmission and storage of hydrogen
                                                      01 p0015 N74-11732
      Safety, legal, environmental, economic,
         political, and social aspects of hydrogen
                                                       01 p0015 N74-11734
      Implementation of a hydrogen energy carrier system
 O1 p0015 N74-11735
HUDSON INST., IEC., CROTON-ON-HUDSON, N.Y.
Context of the session theme, international issues
                                                       02 p0068 N74-18584
       Economic basis for energy and resource use
                                                       02 p0068 N74-18586
      Donarks
                                                       02 p0068 N74-18590
  BYDRO-QUEBEC IEST. FOR RESEARCE, VAREBUES.
Wind utilization in remote regions: An economic
         study
                                                       02 p0058 N74-16790
                                        1
  INDIANA GROLOGICAL SURVEY, BLOOMINGTON.
Study of application of ERTS-A imagery to
fracture-related mine safety hazards in the
          coal mining industry
                                                       01 p0014 H74-11195
       [E74-10083] 01 p0014 B74-111
Application of BRIS-1 imagery to fracture related mine safety hazards in the coal mining
          industry
                                                       02 p0049 N74-16007
          [R74-10238]
       application of EBEP imagery to fracture-related
          mine safety hazards and environmental problems
           in mining
                                                        02 p0049 N74-16019
       [874-10258] 02 p0049 N74-
Study of application of ERTS-A imagery to
fracture-related mine safety hazards in the
   coal mining industry 02 p0065 N74-INFORMATICS, INC., RECEVILLE, ND. Soviet geothermal electric power engineering,
                                                        02 p0065 #74-18012
          report 2
                                                        02 p0048 #74-15776
   LAD-/3494/]
INSTITUTE OF EMERGY ECONOMICS OF JAPAN.
Energy demand in Japan, 1975 to 1985
02 p0069 R74-18600
INSTITUTE OF GAS TECHNOLOGY, CHICAGO, ILL.
        Review of world energy supplies
                                                        01 p0026 N74-14666
          [IGU/A-1-73]
```

```
INSTITUTE OF TRANSPORT AVIATION, PARIS (PRANCE).
      AVIATION needs and public concerns
01 p0027 E74-14749
INTERIOR DEPT., WASHINGTON, D.C.
      Pederal agency energy conservation
                                                                             01 p0026 #74-14686
      [QE-1]
Pederal energy conservation
                                                                             01 p0026 #74-14687
       Assessment of geothernal energy resources
                                                                             01 p0030 x74-15661
      Pinal environmental statement for the geothermal
      Pinal environmental statement for the geothermal leasing program. Volume 2: Leasing of geothermal resources in three California areas 02 p0078 M74-19975

Final environmental statement for the geothermal leasing program. Volume 3: Proposed geothermal leasing and operating regulations 02 p0078 M74-19976

Final environmental statement for the geothermal
       Final environmental statement for the geothermal
      Final environmental statement for the geothermal leasing program. Volume 4: Comments on draft impact statement and proposed regulations 02 p0078 874-19977
Final environmental statement for the geothermal leasing program. Volume 1: Promulgation of leasing and operating regulations
                                                                             02 p0079 N74-20616
INTERTECHBOLOGY CORP., WARRENTON, VA.
The U.S. energy problem. Volume 2: Appendices,
part A
        [PB-207518] 01 p0017 #74-11795
The U.S. energy problem. Volume 2: Appendices,
            part B
                                                                               01 p0017 N74-11796
             F PR-2075191
        Energy storage by compressed air
                                                                               02 p0058 #74-16785
  JACOBS WIED BLECTRIC CO., INC., FORT BRIERS, PLA.
Experience with Jacobs wind-driven electric
generating plant, 1931 - 1957
                                                                               02 p0058 #74-16786
  JET PROPULSION LAB., CALIF. IEST. OF TRCE., PASADRHA.
Liquid metal magnetchydrodynamics (LMBHD)
technology transfer feasibility study. Volume
        technology transfer feasibility study. Volume
1: Summary
[NASA-CR-136197] 01 p0023 N74-13466
Liquid metal magnetohydrodynamics (LMNAD)
technology transfer feasibility study. Volume
2: Appendixes
              r wasa-cr-1361981
                                                                               01 p0023 #74-13467
         Impinging jet separators for liquid metal
         magnetohydrodynamic power cycles
[NSA-CR-136552]
Inversion layer solar cell fabrication and
                                                                               01 p0027 N74-14785
         Inversion layer solar cell labilitation and evaluation [NaSA-CR-136932] 02 p0060 N74-16807 Method of forming a wick for a heat pipe [NaSA-CASE-NPO-13391-1] 02 p0074 N74-19584 Optical properties of thin gold films applied to Schottky barrier solar cells [NaSA-CR-137981] 02 p0076 N74-19698
         [MASA-CR-13/961] 02 p0076 N/4-19698

Heat operated cryogenic electrical generator
[MASA-CASE-NPO-13303-1] 02 p0077 N74-19701

Electric power generation system directly from
laser power
[MASA-CASE-NPO-13308-1] 02 p0077 N74-19702
                                                                                02 p0077 H74-19702
   [NASA-CASE-NPO-13308-1] 02 p007/ N/4-19/02
JOINT COMMITTE ON ATOMIC BRERGY (U. S. CONGRESS).
Atomic Energy Commission 1 December 1973 report
on energy research and development
02 p0075 N74-19606

JOINT ECONOMIC COMMITTEE (U. S. CONGRESS).
The gasoline and fuel oil shortage
[6P0-99-740] 02 p0082 N74-21624
   JOINT PUBLICATIONS RESEARCH SERVICE, ARLIEGTON, VA.
Trends in the mechanization of the coal industry
and guarantee of patent-ability of designs
that are competitive on the world
                technological level
                                                                                  01 p0016 B74-11759
           The history of technology and engineering
               solutions
                                                                                 01 p0016 #74~11760
           Porecasting of technological progress for
               long-range planning of mining operations at
                coal mines
                                                                                  01 p0016 N74-11765
```

Mathematical methods of optimal planning

KRESAS UBIV. CENTER FOR RESEARCH, INC., LAMBRACE.

development and use of energy systems Research on the application of satellite remote sensing to local, state, regional, and national programs involved with resource [JPRS-60546] U) pvo22 ...
[JPRS-60546] From scientific research to the atomic industry
01 p0023 N74-13428 national programs involved with resource
Banagement and environmental quality
[NASA-CR-136472] 01 p0024 874-14093
KEHTUCKY UNIV., LEXINGTON.
Proceedings: Energy Resource Conference (2nd)
[PB-224750/GGA] 02 p0071 874-18634
KERHFORSCHUNGSAMLAGE, JUBLICH (WEST GERMANY).
Approach to the holistic analysis of the system Experimental research on model MHD generator U-02 (Stage 2), Scientific and Technical Report 17/73 [JPRS-60972] 02 p0050 N74-16424 Translations on Eastern Europe Scientific Affairs, no. 383 [JPRS-61101] 02 p0062 N74+17661 man-energy-environment [JUL-982-RG] Role of thermoenergetic research in saving fuel 02 p0062 N74-17663 02 p0080 H74-20626 REBR-MCGRE CORP., OKLAHOMA CITY.
Belancing the demand and supply of electricity Thermal cycle and efficency of a versatile power unit with a magnetohydrodynamic generator and and nuclear fuels thermoelectric generator 02 p0052 N74-16659 [JPRS-61359] 02 p0071 N74-18723 L K LIBRARY OF CONGRESS, DASHINGTON, D.C. KANNER (LEO) ASSOCIATES, REDWOOD CITY, CALIF. Emergy facts Present air pollution situation in Kawasaki city 01 p0020 N74-12672 and future countermeasures [RS-27] The Federal Government and energy: R and D 01 p0018 N74-12321 historical background Wind energy: Its value and the choice of site 01 p0021 N74-12687 Factors affecting the use of coal in present and for exploitation [NASA-TT-F-15311] 02 p0045 N74-15734 future energy makers Wind-powered machines [NASA-TT-P-15149] 01 p0031 N74-15684 02 p0045 N74-15742 Summary of the energy conservation and Wind power plants in Russia [NASA-TT-P-15331] development recommendations contained in the 02 p0045 N74-15743 final report of the National Commission on Observations on modern wind-electric power plants
[NASA-TT-F-15357] 02 p0045 N74-15745 Haterials Policy, June 1973: A background paper 01 p0031 N74-15688 Problems in the electrical equipment of wind A bibliography of non-technical literature on power plants [NASA-TT-F-15312] energy bibliography of Congressional publications on energy from the 89th Congress to 1 July 1971 02 p0051 N74-16642 02 p0046 N74-15749 Otilization of wind power in agriculture in the USSR [NASA-TT-F-15345] 02 p0046 N74-15752
Progress in the utilization of wind power
[NASA-TT-F-15346] 02 p0046 N74-15753
Redium-capacity air motor pilot plant with
hydraulic energy accumulation by pumping
[NASA-TT-F-15299] 02 p0046 N74-15755 The evolution and dynamics of national goals in the United States 02 p0053 #74-16666 A review of energy issues and the 91st Congress 02 p0053 #74-16667 The importance of and progress in the utilization of wind power in Denmark A review of energy policy activities of the 92d Congress [NASA-TT-F-15333] 02 power in heamark Application of wind power to rational generation of electricity [NASA-TT-F-15334] 02 p0047 N74-1579 02 p0047 N74-15758 02 p0062 N74-17669 The gasoline shortage: A national perspective 02 p0075 N74-19618 02 p0047 N74-15759 Conservation of energy Investigation of the possibilities of using wind 02 p0082 N74-21620 power LINGUISTIC SYSTEMS, INC., CAMBRIDGE, MASS.
Influence of wind frequency on rotational speed LAMBRITT-F-15336] 02 p0047 N74-15760
Air power plants in Russia and the United States
(from Dimitry Stein, Elektrizitaetswirtsch.,
volume 40, no. 16, 1941)
[NASA-TT-F-15338] 02 p0047 N74-1476.
Wind energy Influence of wind frequency on rotational speed adjustments of windwill generators
[NASA-TT-P-15184]

Method of calculation of annual overall efficiency of modern wind-power plants
[NASA-TT-P-15310]

Exploitation of wind energy
[NASA-TT-P-15309]

Oz p0055 N74-16756
Using the energy of the wind for electrification
[NASA-TT-P-15307]

Nasa-TT-P-15307]

Wind plant to power sea signals Wind energy
[MASA-TT-F-15342]
Using large wind power plants to directly drive 02 p0047 N74-15764 synchronous generators in parallel operation with a governing network [NASA-TT-F-15343] 02 p0048 N74-15765 A wind plant to power sea signals [NASA-TT-F-15356] 0 Prospects for the utilization of wind energy in 02 p0060 N74-16803 Czechoslovakia [NASA-TT-F-15305] Generator for Kolkhoz wind powered generators [MASA-TT-F-15347] 02 p0063 N74-17786 02 p0048 N74~15766 New wind power station [NASA-TT-F-15332] [NASA-TT-F-15332] 02 p0048 N74-15767 Wind-power supply for the decimeter range directional radio site at Schoeneberg (Eifel) and the experience gained [NASA-TT-F-15337] 02 p0048 N74-15768 Wind power, part 2 - economic feasibility, 1949 (NASA-TT-F-15419] 02 p0063 N74-17792 Analysis of the possible use of wind power in Sweden. Part 1: Wind power resources, theory of wind-power machines, preliminary model 1 02 p0048 N74-15767 02 p0050 N74-16513 A new view of solar energy 02 p0050 N74-16514 Peasibility study of a satellite solar power station [NASA-CR-2357] 02 p0063 N74-17784 of wind-power machines, preliminary model 1 New sources of power: Solar energy and 10 NW wind generators [WASA-TT-F-15441] QŽ p0063 N74-17790 02 p0077 N74-19708 LOCKHEED MISSILES AND SPACE CO., SUMMIYALE, CALIF. Testing for thermal fatigue failures in solar Report of the Wind Power Committee of 1962
[MASI-TT-F-15442] 02 p0078 N74-19710
Supplement to the report on the results achieved arrays with SEAS' experimental mill [MASA-TT-P-15516] 01 p0010 N74-10240 LOS ALABOS SCIENTIFIC LAB., N. MEI. 02 p0081 N74-20700 RANSAS STATE UNIV., MANHATTAN.
Optimal electrical energy growth strategies in an era of environmental concern Some interfaces in resource utilization [LA-UR-73-570] 01 p0022 974-12696 Sodium: Clean-energy storage medium for wehicular power 02 p0080 N74-20697 [LA-5406-MS] 02 p0065 974-17871

And what if we were to switch to hydrogen?
[1A-TR-73-40] 02 p0072 N74-18
Design options and tradeoffs in superconducting

magnetic energy storage with irreversible

02 p0072 N74-18729

switching . 02 p0074 N74-19375 M < MARYLAND UNIV. COLLEGE PARK. An assessment of solar energy as a national energy resource
[NASA-CR-136191]
Proceedings of the Solar Heating and Cooling for
Workshop Part 1: Technical 01.p0019. N74-12462 Proceedings of the Solat heating and Buildings Workshop. Part 1: Techn sessions, Harch 21 and 22
[PB-223536/4GA] 01 p0
HASSACHUSETTS INST. OF TECH., CAMBRIDGE. 01 p0025 N74-14499 Long run cost trends: Persian Gulf and United .02 p0052 N74-16655 Modeling of electric power demand growth [PB-224045/5GA] 02 p0054 N74-16690 Computer simulation of world dynamics and implications for policy decisions 02 p0068 N74-18585 Remarks 02 p0068 N74-18589 MASSACHUSETTS UNIV., ATHERST. A proposed national wind power R and D program
02 p0059 N74-16794 HAX-PLANCK-INSTITUT FURR PLASMAPHYSIK, GARCHING (WEST GERMANT).

Design study of superconducting 5 tesla dipole magnets for MGD generators 02 50067 874-19328 1700-17-531 ECGILL UNIV., MONTREAL (QUEBEC).

Review of the windpower activities at the Brace Research Institute 02 p0058 N74-16787 MICHIGAN UNIV., ANN ARBOR.

Experimental determination of dynamic characteristics of hydrogen oxygen fuel cell systems 01 p0009 N74-10074 Liquid hydrogen as a fuel for motor vehicles; a comparison with other systems 02 p0074 N74-19391 HITHE CORP., MCLEAW, VA. Energy, resources and the environment [M72-180-REV-1] 01 p0 01 p0032 N74-15695 Solar energy systems 02 p0064 N74-17795 [.M73-26] Symposium on Energy, Resources and the Environment. Volume 1: Session on International Issues 02 p0068 N74-18582 [N72-69-VOL-1-RBV-2] Introductory remarks The international aspects of importing natural gas 02 p0068 N74-18588 Symposium on Energy, Resources and the Symposium on Energy, Resources and the Environment. Session on Ethics and Environmental Aspects of the Demand for and Use of Energy, volume 2 [872-69-VOL-2-REV-1] 02 p0068 N74-16 Issues involved in developing an environmental 02 p0068 N74-18591 ethic 02 p0069 N74-18594 Environmental issues and institutional arrangements 02 p0069 N74-18595 Environmental issues, an overview 02 p0069 N74~18597 Symposium on Energy, Resources and the Environment. Volume 3: Session on Options for the Puture and their Resources, Economic, and Environmental Effects 02 p0069 N74-18598 [M72-69-VOL-3-REV-1] Energy, resources and the environment: A set of presentations 02 p0075 N74-19615 US transportation: Some energy and environmental considerations 02 p0075 874-19624
Background material for the Energy Policy
Workshop, 11-12 January 1973
[873-12]
02 p0082 874-21619 02 p0082 N74-21619 MOLECULAR ENERGY CORP., MURRAY HILL, N.J. Construction of 850 and 4,000 ampere-hour silver-zinc cells using inorganic separator [AD-771397] 02 p0064 874-17798 FAD-7713971 MONTAWA STATE UNIV., BOZEMAN.
Technical feasibility study for the development
of a large capacity wind powered electrical generating system 02 p0059 N74-16791 MOTOREM- UND TURBINES-UNION BURNCHRN G.M.B.H. (WEST CERRANY! Investigation of the relative merits of ivestigation of the relative metrics of different power plants for STOL-aircraft with blown flap application 02 p0078 N74-20406

N

MATIONAL ACADEMY OF SCIENCES - NATIONAL RESEARCH COUNCIL, WASHINGTON, D.C. Substitute catalysts for platinum in automobile emission control devices and petroleum refining [PB-222167/9] 01 p0018 N74-11941
NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. A critique of the 1975-1976 Federal automobile emission standards for hydrocarbons and oxides of nitrogen [PB-224863/1GA] 02 p0065 B74-18287 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Automotive spark ignition engine emission Automotive spark ignition engine emission control systems to meet the requirements of the 1970 clean air amendments
[PB-224862/3GA] 02 p0065 N74-18288
NAS report on technological feasibility of 1975-1976 notor vehicle emission standards. A critique of the 1975 Federal automobile emission standard for carbon monoxide, National Academy of Sciences
[PB-224861/5GA] 02 p0065 N74-18289 [PB-224861/5GA] 02 p0065 N74-18289
NAS report on technological feasibility of
1975-1976 motor vehicle emission standards
[PB-224858/1GA] 02 p0066 N74-18291
NAS report on technological feasibilities of
1975-1976 motor vehicle emissions standards.
Hanufacturability and costs to proposed
low-emission automotive engine system low-emission automotive engine systems
[PB-224864/9GA] 02 p0066 N74-18292
NAS report on technological feasibility of 1975-1976 motor vehicle emissions standards. Peasibility of meeting the 1975-1976 exhaust emission standards in actual use emission standards in actual use [PB-274865/6GA] 02 p0066 R74-18303 NAS report on technological feasibility of 1975-1976 notor vehicle emission standards. An evaluation of alternative power sources for low-emission automobiles, National Academy of Sciences [PB-224859/9GA] 02 p0067 N74-18406 NAS report on technological feasibility of 1975-1976 motor vehicle emission standards. Evaluation of catalegy as auto-Byaluation of catalyst as automotive exhaust treatment devices, National Academy of Sciences [PB-224860/7GA] 02 p0067 N74-18407 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.
LANGLEY RESEARCH CENTER, LANGLEY STATION, VA.
Design considerations for the
airfrane-integrated Report by the Committee on Motor Vehicle Emissions airframe-integrated scrampet
[MASA-TH-X-2895]
Aeronautical fuel conservation possibilities for advanced subsonic transports Advanced Subsolic transports

[VASA-TH-X-71927] 02 p0080 N74-20654

NATIONAL ABRONAUTICS AND SPACE ADMINISTRATION.

LBBIS ERSEARCH CENTER, CLEVELAND, OHIO.

Refan program. Phase 1: Summary report

[NASA-TH-X-71456]

Properties of solid polymer electrolyte 02 p0080 N74-20654 fluorocarbon film 01 p0011 N74-10547 [NASA-TN-D-7482] Solar energy to meet the nation's energy needs
[MASA-TM-I-68290] 01 p0011 N74-10754
The use of FEP Teflon in solar cell cover technology [NASA-TH-X-71485] 01 p0012 N74-1094 Electric vehicle battery research and development 01 p0012 N74-10944 01 p0012 N74-10946 [RASA-TH-X-71471] :

```
The multiple junction edge illuminated solar cell [NASA-TE-I-71476] 01 p0012 N74-1094
                                                                                                 NATIONAL COMMISSION ON MATERIALS POLICY,
                                                                                                 WASHINGTON, D.C.
                                                         01 p0012 N74~10947
                                                                                                     Compendium of university forums of the Mational Commission on Baterials Policy, May - June 1972. A background document. NCMP forum on Technological Innovation in the Production and Utilization of Materials at Pennsylvania State University, on 19-21 June 1972 [PB-223679/26A] 01 p0025 $74-14251 Compendium of University forums of the National Commission on Materials Policy, May - June 1972. A background document: University Forum on National Materials Policy, Massachusetts Institute of Technology on 30 May - 2 June 1972 [PB-223678/46A] 01 p0029 $74-15290 TIONAL ECOMONIC RESEARCH ASSOCIATES, INC., NEW
      Pigure-of-merit calculation methods for organic
                                                                                                      Compendium of university forums of the National
         heat-pipe fluids
         [NASA-TM-X-2945]
                                                         01 p0015 N74-11736
      Emission calculations for a scramjet powered
         hypersonic transport [NASA-TM-X-71464]
                                                         01 b0018 N74-12445
      Peasibility of space disposal of radioactive
      nuclear waste. 1: Executive summary [NESA-TH-X-2911] 01 p0025 N74-10533 Effect of water injection on nitric oxide
         emissions of a gas turbine combustor burning natural gas fuel
         [ NASA-TH-X-2959]
                                                         01 p0025 N74-14651
     [NASA-TH-X-2999]
Nethod of making silicon solar cell array
[NASA-CASSE-LEW-11069-1]
O1 p0027 N74-14784
The NASA-Lewis terrestrial photovoltaics program
[NASA-TH-X-71491]
O1 p0028 N74-14788
                                                                                                 NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC., NEW
                                                                                                 TORK.
                                                                                                     Energy consumption and gross national product in
the United States: An examination of a recent
      Wind energy conversion systems [NASA-TM-X-69786]
                                                                                                         change in the relationship
                                                         02 p0055 N74~16757
                                                                                                                                                         01 p0030 #74~15681
      Where there is a wind, there is a way
                                                                                                 MATIONAL SEVIRONMENTAL RESEARCH CENTER, RESEARCH
TRIANGLE PARK, F.C.
Proceedings, Coal Combustion Seminar
                                                         02 p0055 N74-16763
     Batteries for storage of wind-generated energy 02 p0058 874-16784
                                                                                                         [PB-224210/5GA]
                                                                                                                                                        02 p0051 N74-16627
      NASA presentation
                                                                                                      Atmospheric emissions from the petroleum refining industry
[PB-225040/5GA] 02 p0066
                                                         02 p0060 N74-16799
     H2-02 combustion powered steam-MBD central power
                                                                                                                                                        02 p0066 N74-18305
         systems
                                                                                                 NATIONAL BESEARCH COUNCIL OF CANADA, OTTAWA
         (NASA-TH-X-71512)
                                                         02 p0060 N74-16800
                                                                                                 (ONTABIO) .
     Light bulb heat exchanger for
                                                                                                     Investigation of silicon photoelectric cells as
         magnetohydrodynamic generator applications -
                                                                                                         precision photodetectors
         Preliminary evaluation [NASA-TW-D-7534]
                                                                                                     [NRC-TT-1686] 01 p0010 N74-101 Quarterly bulletin of the Division of Mechanical
                                                                                                                                                         01 p0010 N74-10199
     Computer program for thermodynamic analysis of open cycle multishaft power system with
                                                                                                        Engineering and the National Aeronautical
                                                                                                        Establishment, 1 July - 30 September 1973 [DME/WAE-1973(3)] 01 p0023 N7
         multiple reheat and intercool
                                                                                                                                                        01 p0023 N74-13673
     [NASA-TM-D-7589] 02 p0071 N a simplified life-cycle cost comparison of
                                                        02 p0071 N74-18727
                                                                                                      Energy in transportation
                                                                                                                                                        01 p0023 N74-13675
        various engines for small helicopter use
[NASA-TM-X-71517] 02 p0074 N
                                                                                                 WATIONAL SCIENCE POUNDATION, WASHINGTON, D.C.
                                                        02 p0074 N74-19405
                                                                                                     NSP presentation
     NASA Lewis H2-02 NHD program
(NASA-TM-I-71520]
                                                                                                02 p0059 H74-16798 HAVAL SHIP RESEARCH AND DEVELOPMENT CENTER,
                                                        02 p0076 ¥74-19697
     Status of wind-energy conversion
                                                                                                ANNAPOLIS, ED.
Proceedings of Workshop on Navy Alternate Energy
Sources Research and Development
     [NASA-TH-X-71523]
Clean fuels from biomass
                                                        02 p0077 N74-19705
        [ NASA-TH-1-71538]
                                                        02 p0077 N74-19706
                                                                                                        [AD-773746]
                                                                                                                                                        02 p0078 N74-19717
     Development concept for a small, split-core,
                                                                                                HEW ALCHEMY INST., WOODS HOLE, MASS.

The sail wing windmill and its adaptation for use in rural India
        heat-pipe-cooled nuclear reactor [NASA-TM-X-2996] 02
                                                        02 p0078 N74-20238
     Jet engine exhaust emissions of high altitude
                                                                                                02 pod56 874-16771 MEW SOUTH WALES UNIV., KENSINGTON (AUSTRALIA).
Commercial aircraft projected to 1990
[NASA-TH-X-3007] 02 p0079 N74-20591
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.
                                                                                                Energy situation and nuclear power
[NP-19630]
BW 10RK STATE OFFICE OF ECONOMIC RESERRCH, ALBANT.
Consumption of energy in New York State: 1972
(with estimates for 1973)
MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALA.

Solar energy power system
[NASA-CASE-MPS-21628-1] 01 p0025 N74-144
A panel for selectively absorbing solar thermal
energy and the method for manufacturing the
                                                        01 p0025 N74-14496
                                                                                                [OER-19] 02 p0079 N74-20
NORTH CAROLINA STATE UNIV., RALEIGH.
Balancing the supply and demand for natural gas
                                                                                                                                                        02 p0079 N74-20614
        panel
        [ NASA-CASE-MPS-22562-1]
                                                        02 p0076 N74-19700
                                                                                                                                                        02 p0052 N74-16657
NATIONAL ARRONAUTICS AND SPACE ADMINISTRATION.
PASADENA OFFICE, CALIF-
Method of forming a wick for a heat pipe
[NASA-CASE-NPO-13391-1] 02 p0074 N7
                                                                                                                                      O
    [NASA-CASE-NPO-13391-1] 02 p0074 N74-19584
Heat operated cryogenic electrical generator
[NASA-CASE-NPO-13303-1] 02 p0077 N74-19701
                                                                                                OAK RIDGE MATIONAL LAB., TRNN.
                                                                                                    Second iteration analysis of a fossil fuel-fired gas turbine-potassium-steam combined cycle [ORNL-NSF-EP-39] 01 p0019 N74-12577
     Electric power generation system directly from
        laser power [NASA-CASE-NPO-13308-1]
                                                                                                     An inventory of energy research, volume 1
01 p0021 #74-12688
[MASA-CASE-MPO-13308-1] 02 p0077 N74-19702 
MATIONAL ABROMAUTICS AND SPACE ADMINISTRATION,
                                                                                                     hn inventory of energy research, volume 2
WASHINGTON, D.C.
                                                                                                                                                       01 p0021 N74-12689
    Energy-related research and development
                                                                                                    Energy research and development: A selected reading list
                                                        02 p0070 N74-18605
NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER,
                                                                                                        [ORNL-EIS-73-65-REV-1]
                                                                                                                                                       01 p0022 R74-12695
ATLANTIC CITY, N.J.
                                                                                                    Isotope kilomatt program [ORMI-TH-4243]
    fuel-flowmeter calibration, fuel boost pump
                                                                                                                                                       01 p0025 N74-14377
                                                                                                     Electric energy requirements for environmental
       and jettison tests [FAR-NA-73-43]
                                                                                                        protection
                                                        01 p0017 N74-11828
                                                                                                        CONF-730205-4]
NATIONAL BURBAU OF STABDARDS, WASHINGTON, D.C.
Energy conservation through effective utilization
[NBSIR-73-102] 01 p0027 874-14688
                                                                                                                                                       01 p0027 N74-14695
                                                                                                     Storage and transportation of synthetic fuels.
                                                                                                        A report to the synthetic fuels panel [ORNI-TH-4307] 01 p003
                                                                                                                                                       01 p0030 N74-15448
    Technical options for energy conservation in
                                                                                                    Prospects for hydrogen as a fuel for
transportation systems and for electrical
        buildings
       [ NBS-TN-789]
                                                       02 p0071 N74~18724
                                                                                                       power generation [ORNL-TH-4305]
                                                                                                                                                       01 p0030 N74-15449
```

NSF-RANN energy abstracts: A monthly abstract journal of energy research
[ORNL-BIS-73-52-VOL-1-NO-9] 02 p0062 N74-17680 Energy research and development: A selected reading list [ORNL-EIS-73-65] 02 p0080 N74 02 p0080 N74-20627 OFFICE OF NAVAL RESEARCE, LONDON (ENGLAND) MHD for power generation: The view of a chosen 01 p0025 N74-14408 CAD-7603421 OFFICE OF SCIENCE AND TECHNOLOGY, WASHINGTON, D.C. Energy options 02 p0070 N74-18604 OFFICE OF THE WHITE HOUSE PRESS SECRETARY, Washington, D.C.
National energy policy for meeting US energy requirements 02 p0079 N74-20613 OKLAHOMA STATE UNIV., STILLWATER. An electrical generator with a variable speed electrical generator with a view input: Constant frequency output 02 p0057 N74-16778 Energy storage using high pressure electrolysis and methods for reconversion 02 p0057 N74-16780 OKLAHOMA UNIV., MORMAN.
Manergy: An energy management model of the
United States for the prediction of energy demand, resource consumption, environmental effects, the assessment of new technology, and energy resource alternatives 01 p0026 N74-14665 Wind power demonstration and siting problems 02 p0056 N74~16765 OLD DOMINION UNIV., MORFOLK, VA.
The energy dilemma and its impact on air transportation 01 00015 874-11743 [NASA-CR-135993] The energy situation 01 D0016 N74-11744 The air transportation/energy system 01 p0016 N74-11745 Energy conservation and air transportation 01 p0016 N74-11746 An initial step: A demonstration project 01 p0016 N74-11747 Conclusions and recommendations 01 p0016 \$74-11748 OREGOE STATE UNIV. . CORVALLIS. Wind power research at Oregon State University 02 p0056 N74-16767 The Oregon State University wind studies 02 p0059 N74-16792 OWERS-ILLIBOIS, INC., TOLEDO, OBIO. Exploratory development of a glass ceramic automobile thermal reactor 01 p0019 N74-12447 [NASA-CR-134513] PARENTE (ROBERT B.), LOS ANGELES, CALIF.
Power source quality 01 p0019 ¥74-12635 PARIS UNIV., ORSAY (FRANCE).
Description of the energy source project
delivering 1 megajoule in 1 microsecond 02 p0061 N74-17454 1 LF-31 PEABODY COAL CO., ST. LOUIS, NO. Balancing the demand and supply of coal 02 p0052 N74-16658 PENNSYLVARIA STATE URIV., UNIVERSITY PARK.
Interdisciplinary applications and
interpretations of ERTS data within the
Susquehanna River Basin (resource inventory, land use, and pollution) 01 p0013 N74-11182 [274-10061] PERMSYLVANIA UMIV., PHILADELPHIA.
Solar heat utilization in residential heating systems 01 p0019 874-12664 PENNUATT CORP., HOUSTON, TEX. Economic considerations of utilizing small wind qenerators 02 p0058 N74-16789 POLYTECHNIC IEST. OF BROOKLYF, N.Y. The synchronous EFD device 01 p0024 N74-13759

Air mobility fuel cell study
[AD-766757]
The 1.5-kW fuel cell powerplant 01 p0022 N74-12742 01 00022 874-12744 rap-7673021 The 1.5-kw fuel cell powerplant catalyst investigation 02 p0081 #74-20710 [AD-7742741 PRATT AND WHITMEY AIRCRAFT, SOUTH WINDSON, COMM. Study of fuel cell system for powered balloon [AD-766253] 01 p0009 H74-10083
PRATT AND WHITTEN AIRCRAFT, WEST PALE BEACH, FLA.
Influence of fuels and lubricants on turbine engine design and performance, fuel and lubricant analyses 02 p0050 #74-16483 [AD-769309] [AD-103003]
PRINCETON UNIT., N.J.
An introduction to the Princeton sailwing windmill
02 p0056 N74-16769 RAND CORP., SANTA BONICA, CALIF.

Energy demand and its effect on the ennvironment
[P-5048]

01 p0017 K74-1179 01 p0017 874-11790 Energy trends and their future effects upon transportation 01 p0017 #74-11791 Energy policy research and the State of Florida [P-5078] 01 p0026 N74-14684 Residential energy use: An econometric analysis [R-1297-NSF] on projecting the electrical energy demand of the manufacturing sector in 01 p0032 N74-15698 [N-991-NSF/CSBA] 02 p0053 N74-16673
Fuel from organic matter: Possibilities for the state of California California [P-5107] 02 p0054 N The Soviet Union, the Middle East, and the evolving world energy situation
[P-5109]

0 02 p0054 N74-16675 Measures for slowing growth in electricity consumption [P-5017] 02 p0054 N74-16676 Energy conservation in public and commerical buildings 02 p0054 N74-16677 (P-5093) methodology for projecting the electrical energy demand of the commercial sector in California 02 p0054 N74-16679 [R-1106-WSF/CSRA] California's electricity quandary. 3: Slowing the growth rate
[R-1116-NSF/CSA] 02 p0054 874-166 the growth rate
[R-1116-NSF/CS1] 02 p0054 x74-16680
Petroleum: A prediction made in 1950
[P-5135] 02 p0065 N74-18194 [P-5135] The potential for energy conservation in commercial air transport [R-1360-NSF] 02 p0070 N74-18606 Transportation energy use in the United States: A statistical history, 1955 - 1971 [R-1391-NSF]
Energy alternatives for California: The current crisis. 1: The impact of Arab oil export policies on the California energy system

2 p0080 N74-20621 02 p0070 N74-18607 Coping with the fuel shortage: A guide for Los Angeles residents 02 p0080 N74-20622 REMSSELARE POLYTECHNIC INST., TROY, N.Y. Long range trends in the character of electric pover systems 02 p0049 N74-15908 RESEARCH INST. OF MATIONAL DEFENCE, SUMDRIBERG (SWEDEN) . Combustion of the gases methane, LP gas and ammonia in a mixing reactor 01 p0022 N74-12824 [FOA-1-C-1442-H3] ROCKET PROPULSION ESTABLISHMENT, WESTCOTT (ENGLAND) The production of liquid hydrogen at the Bocket Propulsion Establishment 02 p0061 N74-16996 [RPE-TR-71/17] 02 p0061 N74-ROCKETDYNE, CANGGA PARK, CALIF. Investigation of chemical APU application for small ground power sources [AD-765724] 01 p0009 x74-10082

PRATT AND MRITERY AIRCRAFT, RAST HARTFORD, COMM.

Ç

```
SANDIA LABS., ALBUQUERQUE, N. MEX.

Economic comparison of two solar/hydrogen concepts
       [SLA-73-900] 02 p0060 874-16810
Fracture of coal and oil shale for in situ
           processing or remote removal: A proposal
processing of remove removal. A proposal support document [SLA-73-946] 02 p0073 N74-1 SANTA CLARA UNIV., CALIF. Electric energy requirements for environmental
                                                                             02 p0073 N74-19047
           protection
protection
[CONF-730205-4]
O1 p0027 N74-14695
SCIENCE APPLICATIONS, INC., LA JOLLA, CALIF.
Vertical axis wind rotors: Status and potential
O2 p0057 N74-16774
SCIENTIFIC TRANSLATION SERVICE, SANTA BARBARA, CALIF.
Oil exploration subprogram geological
interpretation of images provided by the
           BRTS-A satellite
[NASA-TT-F-15265]
                                                                             01 p0028 N74-15070
       High powered electrical power generation by wind
           motors
       (NASA-TT-F-15303] 02 p0045 N74 Economy and practical applications of large
                                                                             02 p0045 N74-15739
           wind-driven power plants, part 1
[NASA-TT-F-15308] 02
                                                                            02 p0045 N74-15741
       Importance and progress of wind power utilization in Denmark
[MASA-TT-F-15353] 02 p00
                                                                             02 p0045 ¥74-15746
       Characteristic lines (yearly permanent level lines) and characteristic wind variables for
       wind energy production
[NASA-TT-F-15354] 02 p00
The large scale wind driven electrical
                                                                             02 p0046 N74-15747
           generating station [NASA-TT-F-15313]
                                                                             02 p0046 N74-15750
       Utilization of wind power with Ward-Leonard type
circuit in inverted operation
[NASA-TT-F-15352] 02 p0046 N74-1575
                                                                            02 p0046 N74-15751
       Importance and progress of wind power utilization in Denmark [NASA-TT-F-15349] 02 p06
                                                                             02 p0046 N74-15754
       The direct driving of synchronous generators by large scale wind electrical power generating plants in parallel operation with a
      plants in parallel operation with a synchronizing network, part 1
[NASA-TT-F-15301] 02 p0047 N74-15757
Parallel operation of a synchronous generator and an infinitely high-povered network when driven by a Honnef-Gross wind turbine
[NASA-TT-F-15302] 02 p0047 N74-15762
Antenna towers as wind tower generation plants
[NASA-TT-F-15304] 02 p0047 N74-15763
The utilization of the wind energy
       [NASA-TT-F-15304]
The utilization of the wind energy
02 p0048 N74-15769
       Small wind-electrical installations for export
[NASA-TT-F-15350] 02 p0048 874-15770
      The economy and practicality of large scale wind generation stations (conclusion)

[NASA-TT-F-15348]

O2 p0060 N74-16802

The dc generators for utilizing wind power

[NASA-TT-F-15351]

O2 p0063 N74-17789
High wind power plants
[NASA-TT-F-15444]
SRLECT COMMITTEE ON SHALL BUSINESS (G. S. HOUSE).
Energy crisis and small business
Concentration by competing raw fuel industries in the energy market and its impact on small business. Volume 2: Tennessee Valley area [B-REPT-92-1313] 02 p0075 874-19605 SERVICIO GEOLOGICO DE BOLIVIA, LA PAZ.

Petroleum exploration subprogram: Geological
           interpretation of proportional imagery from
      BRTS-A satellite [E74-10213] 01 p0028 % Oil exploration subprogram geological interpretation of images provided by the
                                                                            01 p0028 N74-15020
           ERTS-A satellite
[NASA-TT-F-15265]
SIEBRA CLUB, WASHINGTON, D.C.
                                                                            01 p0028 N74-15070
       Man versus His Institutions
                                                                            02 p0070 N74-18603
SOLAR WIND CO., BAST HOLDEN, MAINE.
       Wind power systems for individual applications
                                                                            02 D0058 N74-16788
```

```
SOUTHERN METHODIST UNIV., DALLAS, TEX.
      Development of geothermal reservoirs from over-pressured areas beneath the Gulf coastal
          plain of Texas. A feasibility study of power
production from overpressured reservoirs
[AD-766855] 01 p0018 #74-12
                                                                  01 p0018 #74-12183
[AD-766855] Ol pouls N/4-12183
SOUTHWEST RESEARCH INST., SAN ANTONIO, TEX.
Performance of Army engines with leaded and
unleaded gasoline. Phase 1: Laboratory testing
[AD-766760] O2 poul N74-17523
       Installation of turbine-fuels research combustor
          laboratory
 [AD-772945] 02 p0073 NT
STAMFORD RESEARCH INST., ARLINGTON, VA.
Legal considerations and constraints on US
                                                                   02 p0073 N74-18897
          nuclear policy
[AU-754641] 01 p0024 N74-13697
STANFORD RESEARCH INST., MENLO PARK, CALIP.
Government, policies, national objectives, and
the energy industries
                                                                   02 p0051 N74-16653
      Weeting California's energy requirements,
1975-2000
                                                                   02 p0076 N74-19629
      Patterns of energy consumption in the United
          States
                                                                   02 p0080 N74-20699
STATE OF OHIO DEPT. OF DEVELOPMENT, COLUMBUS.
Relevance of ERTS to the State of Ohio
[E74-10024] 01 p0013 a
                                                                   01 p0013 x74-11159
STEVENS INST. OF TECH., HOBOKEN, N.J.

The hydrogen IC engine: Its origins and future in the emerging
energy-transportation-environment system
[REPT-729212] 02 p0067 N74-
STOTTGART UNIV. (WEST GERMANI).
Past developments of large wind generators in
                                                                   02 p0067 N74-18403
                                                                   02 p0055 N74-16761
      Some extemporaneous comments on our experiences
          with towers for wind generators
                                                                   02 p0059 N74-16796
SUB OIL CO., PHILADELPHIA, PA.
Balancing the demand and supply of other energy
                                                                   02 p0052 N74-16660
SYDNEY UNIV. (AUSTRALIA).
Alternative energy sources: A research challenge (comr-730560-1) 01 p0024 M74-14097

SYSTEMS RESEARCH LABS., INC., DAYTON, OHIO.

KIVA-I MHD generator modifications and tests [AD-770063] 02 p0060 M74-16815

Investigation in energy transfer and energy conversion for advanced power and propulsion systems
         systems
[AD-771581]
                                                                   02 p0067 N74-18417
TECHNISCHE HOGESCHOOL, DELFT (NETHERLANDS).
Aviation needs and public concerns
                                                                   02 p0062 N74-17685
TECHTRAN CORP., GLEN BURNIE, MD.
Econopics of air transport
[NASA-TT-F-15249]
                                                                  01 p0026 N74-14682
      Meawerk windmill power generation plant
      [NASA-TT-F-15306]
Utilization of wind power
[NASA-TT-F-15300]
                                                                   02 p0045 k74-15740
                                                                   02 p0046 N74-15756
Lines of development of rural wind power plants
[NASA-TT-F-15513] 02 p0081 N74-20701
TENNESSEE UNIV., KNOXVILLE.
Strip-mined watershed bydrologic data
         acquisition study
         [PB-223558/8GA]
                                                                  01 p0025 N74-14105
TEMAS INSTRUMENTS, IGC., DALLAS.
ERTS-1 imagery use in reconnaissance
prospecting: Evaluation of the commercial
         tillity of ERTS-1 imagery in structural reconnaissance for minerals and petroleum [E74-10007] 01 p0013 R74-11148
     ERTS-1 imagery use in reconnaissance prospecting: Evaluation of commercial utility of ERTS-1 imagery in structural reconnaissance
         for minerals and petroleum
[E74-10345] 02 p000
TEKAS UNIV., AUSTIN.
Balancing the demand and supply of oil
                                                                  02 p0082 #74-20948
```

02 p0052 N74-16656

Environmental protection and long run supply of crude oil in the United States 02 p0052 N74-16661 TOMPKIN (JOSEPH), SALEH, ORE.
Introduction to Voigt's wind power plant
02 p0055 N74-16762 Voight variable speed drive 02 00057 174-16779 TRANSPORTATION SYSTEMS CENTER, CAMBRIDGE, MASS.
Energy statistics: A supplement to the summary Energy statistics: A supplement to the summary of national transportation statistics [PB-225331/86A] 02 p0070 N74-186.

TRW SYSTEMS GROUP, REDONDO BEACH, CALIF.
A study of mandatory engine maintenance for reducing vehicle exhaust emissions. Volume 7: A user's manual and guide to the economic effectiveness computer program 02 p0070 N74-18633 [PB-225161/9GA] 02 p0073 N74-19268 TRN SYSTEMS, SAN BERNARDING, CALIF.
A study of mandatory engine maintenance for reducing vehicle exhaust emissions. Volum Experimental characterization of vehicle emissions and maintenance states emissions and maintenance states
[PB-225026/46A] 02 p0074 N74-19:
TULANZ UNIV., NEW OBLEANS, LA.
Investigation of energy conversion in rapidly
cycling fuel cells, 1. A system for studying
the surface diffusion of hydrogen on metals, D2 p0074 N74-19269

DBION ELECTRIC CO., ST. LOUIS, NO.
Recycling solid waste for utility fuel and
recovery of other resources 02 p0071 N74-18725 UNITED AIRCRAFT CORP., STRATFORD, CONN.

Dynamic model wind tunnel tests of a Dynamic model wind tunnel tests of a variable-diameter, telescoping-blade rotor system (TRIC rotor)
[AD-771037] 02 p0061 N74-UNITED WATIONS, NEW YORK.
Natural resources development and policies, including environmental considerations. 02 p0061 N74-17764 Addendum: Changi energy situation [E/C.7/2/ADD.1] Changing patterns in the world 02 p0070 N74-1B609

VIRGINIA UNIV., CHARLOTTESVILLE. National energy policies

02 p0069 N74-18592

02 p0071 N74-18720

SHINGTON UNIV., SEATTLE.
A critical review of mathematical diffusion
modeling techniques for predicting air quality
with relation to motor vehicle transportation
ron-224656/9GA?
02 p0066 N74-18304 WASHINGTON UNIV., SEATTLE. with relation to most [PB-224656/9GA] 02 p006b M/4-1050-WEST TEXAS STATE UNIV., CANYON. Need for a regional wind survey 02 p0055 N74-16764

WESTINGHOUSE ELECTRIC CORP., EAST PITTSBURGE, PA.
The effect of fuel availability on future R and D programs in power generation

01 p0031 N74-15689

O1 p0031 N74-15689

WESTINGHOUSE ELECTRIC CORP., PITTSBURGH, PA.

Hethod of forming a wick for a heat pipe
[NASA-CASB-NPO-13391-1] O2 p0074 N74-19584

WINDWORKS, INC., MUKWANAGO, WIS.

The use of paper honeycomb for prototype blade
construction for small to medium-sized wind

driven generators

02 p0056 N74-16770

WISCONSIN UNIV., MADISON.
Wind-powered asynchronous AC/DC/AC converter

02 p0057 N74-16777 HOLF RESEARCH AND DEVELOPMENT CORP., POCOBOKE CITY,

applicability of Skylab remote sensing for

detection and monitoring of surface mining activities [B74-10160] 01 p0024 N74-14028 WOODS HOLE OCEANOGRAPHIC INSTITUTION, MASS.
Review of the results from the Eastern Atlantic
Continental Margin Program of the International Decade of Ocean Exploration 02 p0065 N74-18073 [PB-225036/3GA] 02 p0065 N74-WYOMING UBLV., LABANIE. Low energy gas utilization in combustion gas

turbine

01 p0029 N74-15447

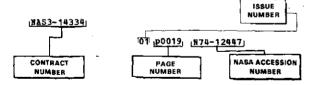
X

XEROI, ROCHESTER, N.Y.
Refurbishment of solar simulation optical train mirror assemblies 01 p0018 N74-12016 [NASA-CR-134123]

CONTRACT NUMBER INDEX

ENERGY / A Continuing Bibliography (Suppl. 02)

Typical Contract Number Index Listing



Listings in this index are arranged alphanumerically by contract number. Under each contract number, the accession numbers denoting documents that have been produced as a result of research done under that contract are arranged in ascending order with the IAA accession numbers appearing first. The accession number denotes the number by which the citation is identified in either the IAA or STAR section. Preceding the accession number are the issue and page number in the particular supplement in which the citation may be

AP PROJ. 683M 01 p0022 N74-12742 02 p0082 N74-21391 PROJ. 3048 02 p0050 N74-16483 AF PROJ. 3144 01 p0011 N74-10681 AF PROJ. 6665 01 p0009 N74-10083 AF PROJ. 7116 02 p0067 N74-18417 AF PROJ. 7360 02 p0049 N74-16264 AF PROJ. 9800 01 p0012 N74-10949 AF 29 (600) -2671 02 p0036 A74-23091 AF 49 (638) -1207 02 p0036 A74-23091 AF-AFOSH-72-2299 01 p0006 A74-17905 AF-AFOSR-2393-72 02 p0064 N74-17801 ARO PROJ. PF226 01 p0017 N74-11852 ARPA ORDER 1622-3 02 p0048 N74-15776 ABPA ORDER 2184 01 p0018 N74-12183 02 p0064 N74-17801 AT (29-1) -789 02 p0060 N74-16810 02 p0073 R74-19047 AT (49-15)-3063 02 p0043 A74-27833 DA PBOJ. 1F1-62204-1-139 02 p0061 N74-17764 DA PROJ. 1G6-63702-DG-10 01 p0022 974-12744 01 p0024 974-13766 02 p0081 N74-20710 PROJ. 1T0-61102-1-341 01 p0010 N74-10085 01 p0013 N74-10951 1T0-62105-1-106 02 p0049 N74-15817 DA PROJ. 1T6-62705-A-012 01 p0010 N74-10086 DA PROJ. 177-62705-A-053 02 p0072 N74-18737 DA PROJ. 4A0-62112-A-891 02 p0061 N74-16819 DAAB07-71-C-0134 02 p0035 A74-20630

DAAB07-72-C-0114 02 p0072 N74-18737 DAAD05-70-C-0007 02 p0073 N74-18897 DAND05-72-C-0427 02 p0061 N74-17523 DAAJ02-68-C-0074 02 p0061 x74-17764 DARK02-70-C-0518 01 p0022 N74-12744 02 p0081 N74-20710 DAAK02-71-C-0397 01 p0024 N74-13766 DAAK02-72-C-0084 01 p0013 N74-10951 DAAK02-72-C-0247 01 p0010 N74-10086 DAAK02-72-C-0424 01 p0009 N74-10082 DAAK02-73-C-0084 01 p0010 N74-10085 DAEC19-71-C-0001 01 p0024 N74-13697 DI-14-31-0001-3843 01 p0025 N74-14105 DOT-FA72WA-3118 02 p0062 N74-17779 02 p0062 N74-17780 02 p0062 N74-17781 EPA-S-802255 02 p0076 N74-19699 BPA-68-01-0402 02 p0065 N74-18287 02 p0065 N74-18288 02 p0065 N74-18289 02 p0066 N74-18291 p0066 N74-18292 02 p0066 N74-18303 P0067 N74-18406 02 P0067 N74-18407 EPA-68-01-0430 01 p0011 N74-10747 EPA-68-02-0629 02 p0066 N74-18313 EPA-68-04-0014 02 p0067 N74-18414 EPA-70-126 02 p0066 N74-18294 FAM PROJ. 181~520-020 01 p0017 N74-11828 FSTC PROJ. 17023012301 01 p0011 N74-10874 F19628-73-C-0139 01 p0009 N74-10083

F29601-72-C-0083 01 p0022 N74-12742 F29601-73-C-0101 02 p0082 N74-21391 F33615-70-C-1515 02 p0067 N74-18417 F33615-71-C-1425 02 p0060 N74-16815 F33615-71-C-1470 02 p0050 N74-16483 F33615-72-C-1088 02 p0036 A74-23221 V33615-73-C-5074 02 p0049 N74-16264 F44620-72-C-0053 02 p0048 N74-15776 65-00-D5-(P)-94008 01 p0018 N74-11941 JPL-953074 02 p0074 N74-19584 JP7-953461 02 p0060 N74-16807 JPL-953680 01 p0009 ¥74-10078 NAONE-16-73 01 p0013 N74-10952 NAONE-19-72 MAUNK-19-72 01 p0013 N74-10952 NASA ORDER L-58514 01 p0005 A74-14892 MASA ORDER S-70243-AG 01 p0014 H74-11188 02 p0045 N74-15734 02 p0045 N74-15742 02 p0045 N74-15743 02 p0046 N74-15749 02 p0046 N74-15752 02 p0046 N74-15753 P0046 874-15755 02 p0047 N74-15758 02 p0047 N74-15759 02 p0047 02 p0047 N74-15761 N74-15764 02 p0047 02 p0048 N74-15765 p0048 N74-15766 p0048 N74-15767 02 00048 N74-15768 02 02 p0063 N74-17792 02 p0077 N74-19708 P0078 N74-19710 0.2 02 p0081 N74-20700 NASW-2482 01 p0012 N74-10948 02 p0046 H74-15748 02 p0055 H74-16756 02 p0060 N74-16801 02 p0060 874-16803 02 p0063 N74-17786 02 p0063 N74-17787 NASE-2083 01. p0028 N74-15070 02 p0045 N74-15739 02 p0045 N74-15741 p0045 N74-15746 P0046 N74-15747 02 p0046 N74-15750 02 02 p0046 N74-15751 p0046 N74-15754 p0047 N74-15757 N74-15762 02 p0047 02 p0047 p0048 N74-15769 02 P0048 N74-15770 no. 02 p0060 N74-16802 02 p0077 N74-19709 NASH-2485 01 p0026 N74-14682 02 p0045 N74-15740 02 p0046 N74-15756 02 p0081 N74-20701 NAS3-14319 02 p0050 N74-16493 WAST-14334 01 p0019 N74-12447 NAS3-14364 02 p0063 #74-17788 NAS3-15826 01 p0002 A74-12242 NAS3-16804 02 p0063 N74-17784 NASS-21735 01 p0018 N74-12119 NAS5-21782 01 p0013 N74-11159 NA55-21795 01 p0014 N74-11195 02 p0049 N74-16007 02 p0065 N74-18012 NA55-21796 01 p0013 N74-11148 02 p0082 N74~20948 NAS5-21876 01 p0023 N74~13051 NAS5-23133 01 p0013 N74-11182 NAS7-100 01 p0009 x74-10078 01 p0027 N74-14785 02 p0060 N74-16807 02 p0074 N74-19584 02 p0076 N74-19698 02 p0077 N74-19701 02 p0077 N74-19702 01 p0018 N74-12016 NAS9-11532 02 p0036 174-23091 NAS9-13297 02 p0065 N74-18007 NAS9-13310 01 p0024 N74-14028 NAS9-13358 02 p0049 N74-16019 NGL-17-004-024 01 p0024 N74-14093 NGL-44-005-114 01 p0014 N74-11728 NGR-10-005-022 01 p0009 N74-10075 NGR-11-002-145 01 p0002 A74-13234 NGR-11-002-166 02 p0071 x74-18721 NGR-33-016-131 01 p0006 A74-18797 01 p0020 N74-12674 NGT-44-005-114 01 p0014 H74-11727 01 p0015 N74-11743

NR PROJ. 9800

NSF C-645

NSF GI-44

NSP

01 p0013 N74-10950 NSF AG-465

02 p0055 N74-16757

01 p0017 N74-11795

01 p0017 N74-11796

01 p0032 N74-15698 02 p0053 N74-16673

02 p0054 p74-16679

01 p0030 N74-15667 GI-32488

01 p0019 N74-12462

01 p0025 874-14499

02 p0070 N74-18607

p0054 N74-16680

P0070 N74-18606

NOVEMBER 1974

CONTRACT NUMBER INDEX

```
NSF GI-32874
02 p0054 N74-16690
NSF GK-2773
02 p0043 A74-27842
NSF GX-28193
NSF GX-28193

02 p0065 N74-18073

NSF-IA-AAA-R-479

01 p0022 N74-12695

N00014-73-C-0039

01 p0012 N74-10949

01 p0013 N74-10950

N00017-72-C-4401
NUOUT/-72-C-4401
02 p0081 N74-20709
N00019-70-C-0498
02 p0064 N74-17799
N00024-73-C-5043
02 p0064 N74-17798
OST-40
           02 p0050 R74-16339
 RF0180206
 01 p0013 N74-10952
RR0240302
RR0240302

01 p0013 N74-10952

SRI PROJ. ECC-2355

02 p0076 N74-19629

SRI PROJ. 8974

01 p0024 N74-13697

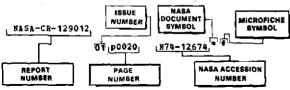
N-31-109-ENG-38
           02 p0061 874-17527
 W-7405-ENG-26
01 p0019 N74-12577
01 p0022 N74-12695
01 p0025 N74-14377
 01 p0025 N74-14377
01 p0030 N74-15449
02 p0062 N74-17680
02 p0062 N74-20627
W-7405-ENG-36
01 p0022 N74-12696
02 p0065 N74-17871
W-7405-ENG-48
01 p0023 N74-13537
01 p0023 N74-13538
501-04-03-03
01 p0019 N74-12448
501-24
01 p0025 N74-14651
            01 p0025 N74-14651
02 p0071 N74-18727
02 p0079 N74-20591
            01 p0011 x74-10547
  503-10
            02 p0067 N74-18557
  503-25
 02 p0078 N74-20238
503-35
            01 p0015 N74-11736
  739-70
01 p0009 N74-10043
770-18
  01 p0025 N74-14533
791-93-60-01
            02 p0080 N74-20654
```

REPORT/ACCESSION NUMBER INDEX

ENERGY / A Continuing Bibliography (Suppl. 02)

NOVEMBER 1974

Typical Report/Accession Number Index Listing



Listings in this index are arranged alphanumerically by report number. The issue and page number indicate the actual Supplement and page where the citation may be located. The accession number denotes the number by which the citation is identified. An asterisk (*) indicates that the item is a NASA report. A-pound sign (#) indicates that the item is available on microfiche. A plus sign (+) indicates a document that cannot be microfiched but for which one-to-one fasimile is available.

| AD-754628 | | 02 p004 | 8 N74-15777 # |
|------------|---|---------|---------------|
| AD-754641 | *************************************** | 01 p002 | |
| AD-754703 | ****************** | | |
| AD-754947 | | | |
| | ******* | 02 p004 | |
| AD-75606B | **************** | 01 p001 | |
| AD-756810 | ***************** | 01 p001 | 1 N74-10751 # |
| AD-758146 | | 02 p004 | 9 N74-15817 # |
| AD-760342 | | 01 p002 | 5 N74-14408 # |
| AD-760395 | | 01 p001 | 1 N74-10874 # |
| AD-760868 | | 02 p005 | |
| AD-761576 | *************************************** | 02 p005 | |
| AD-765476 | | 02 p006 | |
| AD-765724 | ****************** | 01 p000 | |
| ND-765753 | | | |
| | ******** | 01 p001 | |
| AD-765845 | *************************************** | 01 p000 | |
| AD-765933 | ****************** | 01 p001 | |
| AD-766232 | ***************** | 01 pQ01 | 7 N74-11852 🛊 |
| AD-766253 | **************** | 01 p000 | 9 N74-10083 # |
| AD-766312 | | 01 0001 | 0 N74-10086 # |
| AD-766313 | *************************************** | 01 0001 | 0 N74-10085 # |
| AD-766329 | ****************** | 01 p001 | |
| AD-766493 | *************************************** | 01 5001 | |
| AD-766500 | | 01 p001 | |
| AD-766588 | | | |
| | ******** | - F | |
| AD-766757 | **************** | 01 p002 | |
| AD-766760 | ****************** | 02 p006 | |
| AD-766855 | | 01 P001 | |
| AD-766969 | ************** | 01 p001 | 4 N74-11519 # |
| AD-767302 | | 01 p002 | 2 N74-12744 # |
| AD-767402 | *************************************** | 01 p002 | 4 N74-13766 # |
| AD-769309 | | 02 p005 | 0 N74-16483 # |
| AD-769449 | | 02 p004 | |
| AD-770000 | | 02 2006 | |
| AD-770063 | ************************ | 02 p006 | |
| AD-771016 | *************************************** | 02 p006 | |
| AD-771037 | | | |
| | | | |
| AD-771198/ | | 02 p007 | |
| AD-771389 | ******** | 02 p006 | |
| AD-771397 | | 02 p006 | |
| AD-771581 | | 02 p006 | |
| AD-771603 | ****************** | 02 p006 | 2 N74-17779 # |
| AD-771606 | *************************************** | 02 p006 | 2 N74-17780 # |
| AD-771750 | | 02 p007 | 1 N74-18638 # |
| AD-771759 | | 02 p006 | 2 N74-17781 # |
| AD-772723 | | 02 p007 | |
| AD-772944 | ***************** | 02 p007 | |
| AD-772945 | | 02 p007 | |
| AD-773264 | | 02 p008 | |
| AD-773292 | | 02 p007 | |
| | | | |
| AD-773325 | | | |
| AD-773746 | **************** | 02 p007 | |
| AD-773893 | *************************************** | 02 p008 | 1 N74-20703 # |

REPORT/ACCESSION NUMBER INDEX

| BM-RI-7884 | 02 50078 | N74-20069 # 1 | 1. | | |
|-------------------------------|-------------|----------------------------------|--|--------|------------------------------------|
| PH-KI-1004 | - poo,- | | ERC-00845 | 01 p00 | 010 N74-10085 # |
| BM-TPR-73 | 01 p0018 | N74-12159 # | ERC-0397F | 01 p00 | 024 X74-13766 # |
| BH-TPR-76 | 02 p0049 | N74-15808 # | BRC-0959F | | |
| BM-TPR-77 | 02 p0073 | N74-19117 # | | | |
| | | ļ | E74-10007 | | |
| BMFT-FBT-02 | 01 p0015 | N74-11739 # | E74-10024 | | |
| | | | E74-10029 | 01 puc | 018 8/4-12/19** |
| BMPR-7 | 01 p0023 | N74-13051*# | E74-10061 | 01 put | 013 N74-11182*# |
| | | | 874-10073 | 01 put | 014 BJ4-11100+# 016 B78-11106+# |
| BNL-18224 | 02 p0060 | N74-16809 # | E74-10083 | 01 pot | 014 N/4= 1 33+# 023 N2H=12NE1#4 |
| | | | E74-10124 | | |
| BR366B5 | 02 p0061 | # 14-10330 * | E74-10160 | 01 500 | 028 N74-15020*# |
| CCL-321 | 07 200119 | 978-15917 R | E74-10238 | 02 500 | 049 X74-16007** |
| CCL=321 | 02 P0043 | MAN 12011 II | E74-10258 | 02 p0/ | 049 N74-16019*# |
| CE-BIB-28B.1 | 02 60073 | N74-19113 | E74-10331 | | |
| CE-BIB-220 | 02 50062 | N74-17660 | B74-10336 | 02 p0 | 065 N74-18012*# |
| | | | E74-10345 | | |
| CERL-PR-E-13 | 02 p0061 | N74-16819 # | • | | |
| | | | FAA-NA-73-43 | 01 p0 | 017 874-11828 4 |
| CIRC-647 | 02 p0049 | N74-16049 * | n., nn m2 430 | 04 -0 | 047 N7#_14030 A |
| CIRC-650 | 01 p0031 | N74-15685 # | FAA-RD-73-138 | or por | UI/ N/4-11020 # |
| CIRC-650 | 02 b0012 | N/4-19014 # | FOA-1-C-1442-H3 | 01 50 | 022 N7N=12820 # |
| GGRB - 730305 - N | 01 50027 | ¥74_14695 ± | 10x-1-0-1742-03 ************* | J. PO. | AT- 14027 V |
| CONF-730205-4 | 01 50027 | ¥74-12696 \$ | PSTC-HT-23-131-73 | 02 p0 | 061 174-16816 # |
| CONF-730560-1 | 01 p0024 | N74-14097 # | FSTC-HT-23-1011-72 | 02 p0 | 048 N74-15777 # |
| CONF-731002-1 | 01 p0023 | N74-13538 # | FSTC-HT-23-1016-73 | 01 p0 | 012 N74-10898 # |
| CONF-731102-1 | 02 p0074 | N74-19375 # | FSTC-HT-23-1248-72 | 01 p0 | 011 N74-10874 # |
| | | | FSTC-HT-23-1275-72 | 01 p0 | 010 N74-10084 # |
| CRANFIELD-CTS-1 | 02 p0070 | N74-18610 # | FSTC-HT-23-1838-72 | 01 po | 010 N74-10128 # |
| | | | PSTC-HT-23-1981-72 | 02 pu | 074 N74-194U8 B |
| CRC-APRAC-CAPE-13-68-15-VOL-7 | 02 p0073 | N74-19268 # | FSTC-HT-23-2026-72 | O I DO | 4 DB001 - 11 K 600 |
| CRC-APRAC-CAPE-13-68-16-VOL-8 | U2 PUU/4 | N/4-19209 # | PTD-HT-23-8-74 | 02 50 | 081 N74-20704 # |
| CTS-2 | 02 50072 | N7#-18892 # | FTD-HT-23-26-74 | | |
| CTS-Z | 02 p00/2 | 10032 | PTD-HT-23-537-74 | 02 20 | 074 1174-19413 # |
| DDC-TAS-74-2 | 02 p0071 | N74-18638 # | FTD-HT-23-702-73 | 01 p0 | 014 N74-11519 # |
| DDC-TAS-74-10 | 02 p0081 | N74-20705 # | | | |
| | | - | PTD-MT-24-287-72 | 01 p0 | 011 N74-10751 # |
| DFVLR-SONDDR-301 | 01 p0006 | A74-18925 | FTD-MT-24-661-73 | Q2 p0 | 079 N74-20453 # |
| | | -04 -04-55 5 | FTD-HT-24-1737-72 | 01 PU | U11 N/4-10681 # |
| DGLR PAPER 73-092 | 01 20005 | A74-17195 # | FUPH-G-4 | 0.5 20 | 07H N7H-19290 4 |
| DGLR PAPER 73-107 | 01 p0005 | A/4-1/204 # | EUFU-G-4 | oz po | U/4 #/4 13#30 # |
| DHE/WAE-1973 (3) | 01 50023 | N74-13673 ± | GP0-20-345 | 02 p0 | 082 N74-21625 # |
| DEE/MET-12(2(2) | 01 poot 5 | M.4 100/0 1 | GPO-99-740 | 02 p0 | 082 N74-21624 # |
| DOT-TSC-OST-73-34 | 02 p0070 | N74-18633 # | | | |
| | • • | | GRU-2DJ-73 | 02 p0 | 066 N74-18313 * |
| E-7518 | | | | | |
| E-7536 | | | H-REPT-92-1313 | 02 po | 075 N74-19605 W |
| E-7542 | | | HIT-550 | 03 50 | AEA #74-16220 4 |
| E-7565 | 01 00023 | N/4=14031** N7H=18557## | | · . | |
| E-7593 E-7625 | 01 p0011 | N74-10754*# | IGPP-UCR-73-18 | 02 n0 | 064 N74-17801 # |
| E-7632 | | | | F | |
| E-7679 | | | IGU/1-1-73 | 01 p0 | 026 N74-14666 |
| E-7749 | 01 p0009 | N74-10043*# | | | |
| E-7760 | | | IPP-IV-53 | 02 p0 | 067 N74-18328 # |
| E-7772 | 01 p0012 | N74-10946*# | · | | |
| E-7795 | 01 p0012 | N74-10947*# | IR-2 | 02 PO | U/O N/9-19699 # |
| E=7813 | . UI PUUT2 | カイサマ TUグリサデを 1371mm つうちの 4 mm | 1TR-3 | 01 50 | 013 N74-10051 ± |
| E-7822 E-7828 | | | TTU-3 sessessessessessessesses | J. PO | |
| E-7890 | | | JPL-TH-33-621 | 01 p0 | 027 N74-14785*# |
| E-7907 | | | JPL-TM-33-676 | 02 p0 | 076 N74-19698*# |
| E-7908 | | | | _ | |
| E-7912 | 02 p0077 | N74-19705*# | JPL-1200-59-VOL-1 | | |
| B-7945 | . 02 p0077 | N74-19706+# | JPL-1200-59-VOL-2 | 01 p0 | U23 N74-13467*# |
| | An | W70 40600 F | 777C 60546 | 01 -0 | 1022 N76-12602 4 |
| E/C.7/2/ADD.1 | . u≥ puu70 | m/4=18609 # | JPRS-60546 | 01 PU | 1026 B/4-12073 F |
| ECOS-0114-P | 02 50077 | N74-18737 # | JPRS-60584 | | |
| | | | JPRS-61101 | | |
| EDO-9972 | . 02 p0064 | N74-17799 # | JPRS-61359 | 02 p0 | 071 874-18723 # |
| | | | İ | | |
| EFI-74-21 | . 02 p0078 | N74-19711 # | JUL-982-RG | 02 p0 | 080 N74-20626 # |
| | · · | | | | |
| EOS-1155 | . 01 p0018 | N74-12016*# | KS-27 | 01 p0 | 1018 N74-12321 |
| | 00 00-1 | W75 40343 4 | . 0450 | N# - ^ | 010 878 4384848 |
| EPA-R2-73-249 | | | L-8152 | v, po | VID R14-12440*# |
| EPA-R5-73-021 | . u.z puu64 | # DU011-414 | LA-TR-73-40 | 02 50 | 1072 N74-18729 # |
| EPA-650/2-73-017 | . 02 p0066 | N74-18305 * | 20 20 70 70 70 70 70 70 70 70 70 70 70 70 70 | PO | |
| EPA-650/2-73-021 | | | LA-UR-73-570 | 01 p0 | 022 N74-12696 # |
| | = | | LA-UR-73-910 | 02 p0 | 1074 H74-19375 |
| EQL-7 | . 01 p0030 | ¥74-15667 | į | | |
| | | | LA-5406-MS | 02 p0 | 1065 N74-17871 # |
| | | | 1 | | • |

REPORT/ACCESSION BURBER INDEX

| | • | |
|---|---|---------|
| · | HASA-TI-P-15184 01 p0012 N74-10948* | # |
| LBL-1773 01 p0023 H74-13538 # | NASA-TT-F-15249 01 p0026 N74-14682* | |
| | HASA-TT-F-15265 | |
| LF-3 02 p0061 H74-17454 # | NASA-TT-F-15299 | i |
| LRP-63/73 01 p0010,874-10391 # | NASA-TT-F-15301 02 p0047 H74-15757* | ŧ |
| | NASA-TT-F-15302 02 p0047 R74-15762* | |
| MEC-10-73 02 p0064 N74-17798 # | NASA-TT-F-15303 02 p0045 N74-15739* | * |
| | NASA-TT-F-15304 | Ŧ |
| BIT-EL-73-015 02 p0054 x74-16690 # | MASA-TT-F-15305 | i |
| 872-69-VOL-1-REV-2 02 p0068 N74-18582 # | NASA-TT-F-15307 02 p0060 N74-16803* | * |
| M72-69-VOL-2-REV-1 02 p0068 N74-18591 # | WASA-TT-P-15308 02 p0045 N74-15741* | * |
| M72-69-VOL-3-REV-1 | NASA-TT-F-15309 | * |
| 872-164 02 p0075 N74-19624 # | PASA-TT-P-15310 | # |
| H72-180-REY-1 | WASA-TT-F-15311 | i |
| M73-12 | MASA-TT-F-15313 02 p0046 874-15750* | ŧ |
| m73-61 | WASA-TT-P-15331 02 p0045 N74-15743* | * |
| · · · · · · · · · · · · · · · · · · · | WASA-TT-P-15332 | * |
| NASA-CASE-LEW-11069-1 01 p0027 N74-14784* | WASA-TT-F-15333 | * |
| WIEL CLOB MRG-21670. 4 04 m0025 W76-16696## | NASA-TT-F-15334 | ī. |
| NASA-CASE-MPS-21628-1 01 p0025 N74-14496** NASA-CASE-MPS-22562-1 02 p0076 N74-19700** | NASA-TT-F-15337 02 p0048 N74-15768* | |
| | WASA-TT-F-15338 02 p0047 N74-15761* | |
| NASA-CASE-MPO-13303-1 02 p0077 W74-19701*# | NASA-TE-F-15342 02 p0047 N74-15764* | |
| NASA-CASE-NPO-13308-1 02 p0077 N74-19702*4 | NASA-TT-F-15343 | i |
| NASA-CASE-NPO-13391-1 02 p0074 N74-19584** | MASA-TT-F-15345 02 p0046 N74-15752* | ž. |
| MASA-CR-2357 02 p0063 M74-17784** | BASA-TT-F-15346 02 p0046 H74-15753* | # |
| NASA-CR-121247 02 p0050 H74-16493*# | BASA-TT-F-15347 02 p0063 #74-17786* | |
| HASA-CR-121280 02 p0063 N74-17788*# | NASA-TT-F-15348 | * |
| MASA-CR-129012 | NASA-TT-F-15349 | # |
| MASA-CR-134123 | NASA-TT-F-15351 02 p0063 N74-17789* | ı. |
| WASA-CR-134176 | BASA-TT-P-15352 02 p0046 874-15751* | • |
| MASA-CR-134513 01 p0019 M74-12447** | MASA-TT-F-15353 02 p0045 N74-15746* | # |
| NASA-CR-134519 | NASA-TT-P-15354 02 p0046 N74-15747* | .1 |
| NASA-CR-135816 | HASA-TT-F-15355 02 p0063 N74-17787* HASA-TT-F-15356 02 p0060 N74-16803* | |
| NASA-CR-135848 | MASA-TT-F-15357 | |
| NASA-CB-135870 | NASA-TT-P-15419 02 p0063 #74-17792* | • |
| MASA-CR-135961 | HASA-TT-F-15441 02 p0077 H74-19708* | # |
| NASA-CR-135972 01 p0014 N74-11195** | WASA-TT-F-15442 02 p0078 W74-19710* | |
| NASA-CR-135981 | NASA-TT-F-15444 | # :# |
| HASA-CR-135993 | WASA-TT-P-15513 02 p0081 E74-20701* WASA-TT-P-15516 02 p0081 E74-20700* | |
| WASA-CR-136191 | | |
| NASA-CR-136197 01 p0023 H74-13466*# | NBS-TH-789 02 p0071 H74-18724 | * |
| MASA-CR-136198 | WBSIR-73-102 01 p0027 H74-14688 | |
| MASA-CR-136287 | BD2TU-12-105 ************* AI DOX1 B14-14000 | • |
| MASA-CR-136472 | NCMP-0P-3 | |
| MASA-CR-136536 02 p0049 N74-16007** | HCHP-UP-6 01 p0025 H74-14251 | • |
| NASA-CR-136552 | | |
| BBSA-CR-136586 | MEAB~297 01 p0018 H74-11941 | • |
| HASA-CR-136842 | NP-19837 02 p0072 N74-18730 | |
| NASA-CR-136857 | NP-19837 | |
| NASA-CR-136932 | | |
| NASA-CR-137242 | BEC-TT-1686 01 p0010 874-10199 | * |
| NASA-CR-137981 02 p0076 N74-19698*# | MSF-RA/N-73-004 01 p0025 N74-14499 | |
| NASA-TH-X-2895 01 p0019 N74-12448** | | |
| NASA-TH-I-2911 01 p0025 N74-14533** | NSF-RANK-71-1-2 | • |
| NASA-TH-X-2945 | MSP-RANN-71-1-3 01 p0017 N74-11796 | * |
| NASA-TH-X-2959 | BSF/EA/8-73-001 | 4 |
| NASA-TH-X-2996 | BSP/RA/W-73-006 02 p0055 B74-16757* | |
| WASA-TH-X-68290 | • | |
| #ASA-TH-X-69786 02 p0055 #74-16757## | BSRDC-4195 02 p0078 H74-19717 | # |
| NASA-TH-X-71456 | OTD 40 SERDY | |
| WASA-TH-X-71464 | OEE-10-SUPPL | i |
| NASA-TH-X-71471 01 p0012 H74-10946*# NASA-TH-X-71476 01 p0012 H74-10947*# | | |
| NASA-TH-X-71485 01 p0012 N74-10944** | ONERA, TP NO. 1311 02 p0037 174-24313 | • |
| NASA-TM-I-71491 01 p0028 N74-14788*# | • | |
| NASA-TM-I-71512 02 p0060 N74-16800*# | OHR-TR-20 01 p0012 874-10949 | ¥ |
| NASA-TE-X-71517 02 p0074 H74-19405*# NASA-TE-X-71520 02 p0076 H74-19697*# | ORRL-C-10-73 01 p0025 #74-14408 | |
| NASA-TH-X-71520 02 p0076 R74-19697** HASA-TH-X-71523 02 p0077 R74-19705** | | |
| NASA-TH-X-71538 02 p0077 N74-19706*# | ORNL-EIS-73-52-VOL-1-NO-9 02 p0062 N74-17680 | • |
| NASA-TM-I-71927 02 p0080 N74-20654*# | OBNL-EIS-73-65 02 p0080 F74-20627 | * |
| | ORNL-EIS-73-65-REV-1 01 p0022 N74-12695 | # |
| NASA-TN-D-7482 01 p0011 N74-10547*# NASA-TR-D-7534 02 p0067 N74-18557*# | ORNL-NSF-EP-39 01 p0019 N74-12577 | |
| NASA-TR-D-7534 02 p0067 #74-18557*# WASA-TR-D-7589 02 p0071 #74-18727*# | | |
| | ORNL-TM-4243 01 p0025 N74-14377 | # |
| NASA-TT-F-15149 02 p0045 N74-15742*# | ORNI-TE-4305 01 p0030 874-15449 | • |
| · · · · · · · · · · · · · · · · · · · | · | |

REPORT/ACCESSION HUMBER INDEX

| | 04 -0020 | 77 45 45 40 A 1 |
|---|----------------------|------------------------------|
| ORNL-TH-4307 | 01 p0030 | N74-15448 # |
| ORSER-SSEL-TR-9-73 | 01 p0013 | N74-11182*# |
| ONODE COMPANY | | |
| OWRE-A-030-TENN(1) | 01 p0025 | N74-14105 # |
| P-5017 | 02 p0054 | N74-16676 8 |
| P-5046 | 01 p0017 | N74-11791 # |
| P-5048 | 01 p0017 | N74-11790 # |
| P-5078 | 01 p0026 02 p0054 | N74-14684 # N74-16677 # |
| P-5093 | 02 p0054 | N74-16674 # |
| P-5109 | 02 p0054 | N74-16675 # |
| P-5135 | 02 p0065 | N74-18194 # N74-20621 # |
| P-5146 P-5154 P-5154 | 02 p0080 02 p0080 | N74-20621 # N74-20622 # |
| 1-3134 | | |
| PB-207518 | 01 p0017 | N74-11795 # |
| PB-207519 | 01 p0017 01 p0019 | N74-11796 # N74-12462*# |
| PB-221659 | 01 p0018 | N74-11941 # |
| PB-222609/0 | 01 p0010 | N74-10129 # |
| PB-222849/2 | 01 p0011 01 p0028 | N74-10747 # N74-14791 # |
| PB-223536/4GA | 01 p0025 | N74-14499 # |
| PB-223558/8GA | 01 p0025 | N74-14105 # |
| PB-223678/4GA | 01 p0029 | N74-15290 # N74-14251 # |
| PB-223679/2GA | 01 p0025 02 p0066 | N74-18300 # |
| PB-224045/5GA | 02 p0054 | N74-16690 # |
| PB-224119/8GA | 02 p0050 | N74-16339 # |
| PB-224210/5GA | 02 p0051 02 p0066 | N74-16627 # N74-18294 # |
| PB-224243/6GA | 02 p0050 | N74-16332 # |
| PB-224252/7GA | 02 p0050 | N74-16333 # |
| PB-224493/7GA | 02 p0064 | N74-17800 # N74-18304 # |
| PB-224656/9GA | 02 p0066 02 p0071 | N74-18634 # |
| PB-224858/1GA | 02 p0066 | N74-18291 # |
| PB-224859/9GA | 02 p0067 | N74-18406 # |
| PB-224860/7GA | 02 p0067 02 p0065 | N74-18407 # N74-18289 # |
| PB-224861/5GA | 02 p0065 | N74-18288 # |
| PB-224863/1GA | 02 p0065 | N74-18287 # |
| PB-224864/9GA | 02 p0066 | N74-18292 # N74-18303 # |
| PB-224865/6GA | 02 p0066 02 p0074 | N74-19269 # |
| PB-225036/3GA | 02 p0065 | N74-18073 # |
| PB-225039/7GA | 02 p0066 | N74-18313 # |
| PB-225040/5GA | 02 p0066 02 p0067 | X74-18305 # X74-18414 # |
| PB-225161/9GA | 02 p0073 | N74-19268 # |
| PB-225331/8GA | 02 p0070 | ¥74-18633 # |
| PR-37 | 02 p0080 | N74-20647 |
| | _ | |
| PWA-FR-5673 | 02 p0050 | ¥74-16483 # |
| PWA-4635 | 01 p0022 | N74-12742 # |
| PWA-4704 | 01 p0022 | N74-12744 # N74-20710 # |
| PWA-4792 | 02 p0081 01 p0009 | |
| 1 | - | |
| QPR-3 | | N74-14028*# |
| QPR-3 | UZ PUU49 | N74-16019*# |
| QR-1 | 01 p0026 | N74-14686 # |
| R-679-5 | 01 00011 | N74-10747 # |
| R-991-NSF/CSRA | 02 p0053 | N74-16673 # |
| R-1106-NSF/CSRA | | N74-16679 # |
| R-1116-NSF/CSA | 02 p0054 | 174-16680 # 174-15698 # |
| R-1297-NSF R-1360-NSF | | N74-18606 # |
| R-1391-NSP | 02 p0070 | ¥74-18607 ₽ |
| R-9284 | 01 p0009 | N74-10082 # |
| REPT-73SD231 | 01 p0012 | N74-10949 # |
| REPT-732-015-1 | 01 p0009 | N74-10078*# |
| REPT-2817-3001 | | N74-16264 # |
| REPT-729212 | = | N74-18403 # |
| RPE-TR-71/17 | 02 p0061 | N74-16996 # |
| RPR-12.1 | 02 p0066 | N74-18304 # |
| RR-35 | _ | |
| | _ | 1 |
| R74AEG153 | 02 p0050 | M74-16493*# |

| S-REPT-93-526 | 01 p | 0027 | N74-146 | 93 # |
|---|--------------|----------------------|-------------------------------|--------------|
| SAR-15 | 01 p | 0009 | N74-100 | 75*# |
| SER-50797 | 02 p | 0061 | N74-177 | 64 # |
| SLA-73-900 | | | N74-168 N74-190 | |
| 5SC-TN-8974-68 | 01 p | 0024 | N74-136 | 97 # |
| S₩-36D.II | 02 p | 0076 | N74-196 | 99 # |
| TID-26342 | 01 p | 0017 | N74-118 | 51 # |
| TH-73-489 | 02 p | 0050 | N74-164 | 93** |
| UCID-16317 | 01 p | 0023 | N74-135 | 37 # |
| UKY-TR-70-73-CEED4 | 02 p | 0071 | N74-186 | 34 # |
| US-PATENT-APPL-SN-83816 US-PATENT-APPL-SN-846567 | 01 p 02 p | 0027 0025 0074 | N74-147 N74-144 N74-195 | 96*# 84*# |
| US-PATENT-APPL-SN-455164 | | 0077 | R74-197 | |
| US-PATENT-APPL-SN-457295 | | 0077 | N74-197 | |
| US-PATENT-APPL-SN-458484 | 02 p | 0076 | N74-197 | |
| US-PATENT-CLASS-29-572 | | 0027 | N74-147 | |
| US-PATENT-CLASS-29-588 | | 0027 | N74-147 | |
| US-PATENT-CLASS-136-89 | 01 p | 0027 | N74-147 | *# |
| US-PATENT-3,780,424 | 01 p | 0027 | N74-147 | *44 |
| USAAMRDL-TR-73-32 | 0 2 p | 0061 | N74-177 | 64 # |
| U1-702700-F U1-702700-2 | 02 p 01 p | 0082 0013 | N74-209 N74-111 | 46*# 46*# |
| WHOI-CONTRIB-3218 | 02 p | 0065 | ¥74-180 | 73 # |
| WHOI-73-75 | 02 p | 0065 | N74-180 | 73 # |
| W73-14368 | 01 p | 0025 | N74-141 | 105 # |

PUBLIC COLLECTIONS OF NASA DOCUMENTS

DOMESTIC

NASA distributes its technical documents and bibliographic tools to ten special libraries located in the organizations listed below. Each library is prepared to furnish the public such services as reference assistance, interlibrary loans, photocopy service, and assistance in obtaining copies of NASA documents for retention.

CALIFORNIA
University of California, Berkeley
COLORADO
University of Colorado, Boulder
DISTRICT OF COLUMBIA
Library of Congress
GEORGIA
Georgia Institute of Technology, Atlanta

The John Crerar Library, Chicago

MASSACHUSETTS
Massachusetts Institute of Technology, Cambridge
MISSOURI
Linda Hall Library, Kansas City
NEW YORK
Columbia University, New York
PENNSYLVANIA
Carnegie Library of Pittsburgh
WASNINGTON

University of Washington, Seattle

NASA publications (those indicated by an "" following the accession number) are also received by the following public and free libraries:

CALIFORNIA
Los Angeles Public Library
San Diego Public Library
COLORADO
Denver Public Library
CONNECTICUT
Hartford Public Library
MARYLAND
Enoch Pratt Free Library, Baltimore
MASSACHUSETTS
Boston Public Library
MICHIGAN
Detroit Public Library

MINNESOTA
Minneapolis Public Library
MISSOURI
Kansas City Public Library
St. Louis Public Library
NEW JERSEY
Trenton Public Library

MEWY YORK **Brooklyn Public Library Buffalo and Erie County Public Library** Rochester Public Library New York Public Library ONIO Akron Public Library Cincinnati Public Library Cleveland Public Library **Dayton Public Library** Toledo Public Library OKLAHOMA Oklahoma County Libraries, Oklahoma City TENNESSEE Memphis Public Library TEXAS **Datias Public Library** Fort Worth Public Library Washington

An extensive collection of NASA and NASA-sponsored documents and aerospace publications available to the public for reference purposes is maintained by the American Institute of Aeronautics and Astronautics, Technical Information Service, 750 Third Avenue, New York, New York, 10017.

Seattle Public Library

Milwaukee Public Library

WISCONSIN

EUROPEAN

An extensive collection of NASA and NASA-sponsored publications is maintained by the British Library Lending Division, Boston Spa, Wetherby, Yorkshire, Engrand. By virtue of arrangements other than with NASA, the British Library Lending Division also has available many of the non-NASA publications cited in STAR. European requesters may purchase facsimile copy or microfiche of NASA and NASA-sponsored documents, those identified by both the symbols "#" and "*", from: ESRO/ELDO Space Documentation Service, European Space Research Organization, 114, av. Charles de Gaulle, 92-Neuilly-sur-Seine, France.

ES